

THE
CALCUTTA JOURNAL
OF
MEDICINE.

A MONTHLY RECORD OF THE MEDICAL AND AUXILIARY SCIENCES.

तदेव युक्तं भैषज्यं यदारोग्याय कल्पते ।
सचैव भिषजां श्रेष्ठो रोगेभ्यो यः प्रमोचयेत् ॥
चरकसंहिता ।

That alone is the right medicine which can remove disease :
He alone is the true physician who can restore health.
Charakā Sanhitā.

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THE PAST YEAR.

Homœopathy was not marked by any significant occurrence during the past year in India. As usual we had our Hahnemann Anniversary on the 10th April. The Hahnemann Society could not show any marked progress except holding the anniversary meeting, which took place simultaneously with the Hahnemann Anniversary. It was announced that we would try to have bi-monthly meetings, in which papers concerning medical and auxiliary sciences would be read and discussed. There was only one meeting instead of six. Papers were courted from many regular practitioners but all of them expressed their inability. The existence of our life could only be demonstrated at the bed-side of the patient. Any other sign of kinetic energy was almost absent. It can not be doubted that we have potential manifestation. We are satisfied with that kind of existence.

The singular feature is that there is great apathy in the cultivation of medical knowledge in India and particularly in Calcutta. The dominant orthodox school is no better than we are in this respect. They are a legion while we are only a handful. Their medical society practically does not exist. Reference of it is heard at distant periods, but that does not show any active existence.

Whatever its attitude may be towards us, so far it can be said, that there is no active hostility between the two clans of Indian practitioners in India as in Europe and Australia. We are more calm and even-tempered than our friends in Europe. The land of the burning sun does not infuse us with so much heat as in the region of the temperate climate. There is good temper in the tropical zone as far as the medical profession is concerned. It seems that the temperate climate produces great distemper. Undoubtedly this is a happy feature in India. The European medical men in the service of the government are not so friendly in their attitude. Most of their dominant class show jealousy and hatred towards the new school if they can get the chance of doing so. When a Chief Justice of the High Court of Calcutta was placed under the treatment of Dr. Mahendra Lal Sircar, the cry was raised that the life of the Chief Justice can not be safe in the hands of an Indian. Unscrupulous political dodges are now and then enacted in high quarters of European life. Lady Lansdowne used to administer homoeopathic globules to her children. The Hon'ble Gibbs, a senior member of the Viceregal Council in India was under the treatment of Dr. Sircar for a long time. Sir Henry Sumner Maine, a Law Member of the Governor-General's Council had his medical attendant Dr. Tonnerre, who was well known for his homoeopathic skill. These are the few among many examples where homoeopathy has successfully been tried in high quarters of European life. Among Maharajas, Rajas, Nawabs, Begums and Ranis, homoeopathy has its influence.

In the dominant school, the Europeans generally take the lead. This is more due to their service under the government than to anything else, which renders an undue high appreciation. The public blindly follow the example set by the government and the European community. The Indian practitioners who are in no way inferior to the Europeans in their qualification are waking up to the exigency of the time and the critical situation of the country. They are mostly a body of independent men generally remaining apart from the service of the government. They have carved out their own way as specialists of

the orthodox school. This is so much a glory to them and to the nation.

Homoeopathy from its beginning is under the protection of Indian practitioners. There were Europeans who flourished for their distinguished attainments, but the medical men of India were and are the leaders of the Homoeopathic community. The Indian graduates of the Calcutta Medical College are showing more favour than their colleagues of other medical colleges in India. The Indian graduates of the American homoeopathic colleges are gradually swelling in number. The medical examinations in India are getting more stiff than before and are placing serious obstruction to our acquisition in quantity and quality. The American graduates may in future exceed the Indian products, if money be available to send our students in that country. In the Indian Medical Colleges, none is admitted who has not passed the F. A. examination. In America, no such distinction is observed. The comparison of the curriculum of their studies would be invidious. In the present progressive age of medical instruction, so far it can be said, that

biology and pathology are the brain and the spinal cord to obtain distinction in medical practice. The rule holds good in both the schools of medicine, either orthodox or the new system. It is a disaster to follow the blind rules of symptomatology without paying attention to the pathological nature of the disease. Symptoms at best are exponents of the pathogenetic application of a drug. Pathogenesis, on the other hand, depends entirely on the pathological condition of a disease. Symptoms are macroscopic observations, and physiological pathology is the microscopic histology. If there is keenness in the finer adaptability of a drug than gross application, then that minute observation can only come from the study of physiological pathology and its proper use in medicine.

The selection of simillimum is not a safe guide. Diseases can be roughly said to be a group of changes of a particular character. The dangerous nature of those alterations is manifested by urgent symptoms which are more painful or destructive than the rest. These we call characteristic symptoms, which

are prominently observed than the rest. Our duty is to attack these characteristic symptoms so as to alleviate the intense sufferings of the patient. When they are subdued, others prominently appear. These in our turn are next seized and we soon try to master the disease. If the urgent symptoms take the upper hand and baffle our attempt, there is failure. The selection of a *simillimum* can be productive of good result in chronic diseases with no urgent symptoms. Almost every alteration due to disease being in its moderate course, no immediate danger is apprehended. As a rule it may be said that in acute diseases the safe guide is the observation of characteristic symptoms.

Another desirable fact is the introduction of homoeopathy among qualified students. It is certain that the best recipients of the knowledge of homoeopathy would be the graduates of the medical colleges of India, who have undergone preliminary education which can admit a man into the craft of medicine. When we have no colleges of our own which can impart that quality and quantity of education which is requisite for a medical practitioner, the only chance of our success is to draw the graduates of medical colleges among ourselves. Another serious attempt should be to amalgamate the four schools of homoeopathy into one. Without turning up so many lay practitioners, it would be better to have a few good and sound men who would be able to hold their ground. The students of these schools should be the passed or the failed students of the fifth year of the medical colleges of India. The least qualified would be the failed students of the third year of those colleges or the passed and failed students of the class of hospital apprentices. The seed should be sown in a fit soil to be fruitful. Sometimes we are amazed to find the vanity and haughtiness of lay practitioners, who show their worth by dabbling homoeopathy in a way so as to produce serious mockery. All these bad features of lay homoeopathy cannot be multiplied for a long time without creating mischief which would be ruinous to our own status and prestige. The regular practitioners have divided themselves into so many factions, that

it would not be wrong to say that each individual practitioner has created a distinct focus for his own work. The deliberate consideration is whether a few or the most of them can join to make a majority. The attempt to manufacture a party of any consequence is made from the ranks of lay practitioners who like the Irish Nationalists in the British Parliament, vote with the conservatives, unionists, liberals or radicals according to their own convenience. It is an admitted fact that they form a different class from the regular practitioners of homoeopathy, whatever their position and experience may be. They can form a distinct class of their own for their own advantage. In a league of homoeopathic practitioners they can be valuable adjuncts. After that, in any serious deliberation for the progress and welfare of homoeopathy their voice is not likely to have a sound influence. We may not be liked by our colleagues for our definite utterances. But it should be known that the 'voice' comes from well-to-do members of homoeopathy whose services can be availed in any critical condition. Whatever our colleagues from American colleges think of us, they, as young practitioners may learn many things in the association of the graduates of the Indian medical colleges which would be profitable to them. It is not the arrogant utterance of a young man who has scarcely passed his thirties. The advice comes from a sober man of mature age who has seen many events in the annals of homoeopathy in India. If unity can preserve us, it would be courting disaster by creating division.

In short, our work should be not to create divisions and foci of repulsion. The qualified practitioners can have the guidance of a few disinterested colleagues who can keep up the dignity of the profession. The lay practitioners ought to be as auxiliaries in cases of necessity, retaining the unqualified distinction. The Hahnemann Society exists and it should be our earnest attempt to raise its position in such ways as to enhance its reputation as well as of our own. There is too much professional jealousy. Condemnable actions are not wanting to court bad reputation. The days of go-ahead trade

have invented methods of gain which are undermining our respect in the practice of homœopathy. The evil works should be abjured for the prospect of regeneration. There should be more light than darkness. It would be a desirable action tending to good result, if we can earnestly say like Goethe, the renowned countryman of Habnemann, Light more light ! Light more light !

PULMONARY CONGESTION.

(Translated from L' Art Medical, November 1905, for the Calcutta Journal of Medicine).

How many errors and above all unknown things are covered under this title. However, in the current and each-day science, this expression is employed, which is perhaps more so used, for the signification is more vague and more undetermined. If a classical treatise of pathology is opened a person will surely find a chapter called pulmonary congestion, with divisions : active and passive congestion, essential and symptomatic congestion. However, without the acute and dreadful march of congestion vulgarly called insolation, and of which the symptoms and the cause of the lesion, as well as the symptoms of the congestions are well known. According to their clinical and pathological anatomy, we find three affections : the congestion of Woillez, the pleuritic congestion of Potain, and the spleno-pneumonia of Grancher ; these lesions are absolutely ignored and their nature consequently is far from being fixed.

We will describe, in a few words the acute congestion of the lungs, known under the name of insolation, and the symptomatic congestions. ~~Passing~~ ^{Passing} from the known to the unknown, we will describe the clinical forms of the maladies of Woillez, of Potain and of Grancher.

The pulmonary congestion of insolation has especially been described by Lacassagne. Under the influence of an elevated temperature it bursts into a rapid and dreadful manner to terminate in sudden death. The diseased person experiences oppression, an increased anxiety, sensation of lipothymy. In

autopsy, the pulmonary system is found to be engorged with blood. Lacassagne compared the two lungs as two enormous lumps of clotted blood. The lung-substance is of a brown coloration, more or less dark and containing enough of hæmorrhagic foci.

SYMPTOMATIC CONGESTION.

The pulmonary congestion differs from these symptoms, in their progress, in their lesions, attending these diseases, as they present themselves. It teaches that they accompany more or less all the acute affections of the lungs, a great exaggeration is made in the character of these diseases, where inflammation of the bronchi and pulmonary tissues play a principal part.

We repeat these remarks here, which we marked more than forty-years, that the character of the pulmonary congestion is absent in pronounced pneumonia. Lacinéc has described it as the first degree of pneumonia, which stage his successors have described as apparently the pulmonary congestion, being an error of pathological anatomy. It is an error of pathological anatomy, because in the pronounced pneumonia, the lesions constitute an entirely inflammatory mass, and the sign of pneumonia, at the first appearance, is the fine crepitant rale, in fact the special sign of pulmonary hepatisation, and not the sub-crepitant rale which always accompanies the pulmonary congestion.

On the other hand, the pulmonary symptomatic congestion is frequently met with in the course of typhoid and eruptive fevers, rheumatism, and other affections. It is also found in two forms, well differentiated in affections of the heart, in cardiac insufficiency connected with the mitral lesion; it is there a true passive congestion from mechanical cause. In the lesions of the aortic orifice and of the aorta often enough congestions are observed to march rapidly, which continues for a short time accompanied with an expectoration well analogous to that of pneumonia.

But we do not wish to enter here into details. The history of all the symptomatic congestions, we only desire to indicate,

is a great trait in these diseases and we describe the lesions and the symptoms which will allow their diagnosis.

It is the occasion to study the pathological anatomy of symptomatic congestions which are so frequent. The two lungs are red, more voluminous and denser than in the ordinary state, floating however, in effusions. Sometimes, particularly in the symptomatic congestion of the aortic lesion, hæmoptic foci exist. The pleura is often the site of the hæmorrhagic picket, the mucous membrane is red, below in the lungs is smooth, without trace of granulation. The microscopic examination allows to find the engorgement of the capillary vessels which creep in the alveolar wall, and a more or less epithelial desquamation is marked.

The symptomatic congestions vary in their march and symptoms according to the diseases on which they depend. But the common physical signs are: diminution of the thoracic sonorous vibration, and especially sub-crepitant rales, variable in number and intensity.

Maintaining the cause of their practical importance, we come to describe the malady of Woillez, that of Potain and that of Grancher. As the nature of these morbid processes are, however, not fixed, we describe their clinical features.

1. MALADY OF WOILLEZ.

Woillez has described under the name of *Essential Acute Congestion*, a disease which abruptly begins by friction in one of the sides, sometimes with vomiting, febrile movement between 39.05 to 40 C. cough and viscous sputum. This disease often follows an attack of cold, with a duration of about six hours, sometimes, less, and terminates in defervescence.

In the affected side the physical signs are the following: dulness, mild breathing, and moist crepitation. I add, that this disease always terminates by cure, and is considered by others benign, abortive pneumonia. The presence of pneumococcus in the sputum seems to confirm this opinion.

2. PLEURO-CONGESTION OF POTAIN.

In 1678, Potain has given a description of this malady. According to him, the affection consists of pulmonary congestion

and pleurisy. It consists in the effusion of laminæ, well distributed and showing up to the summit of the lungs. The dulness is diffused, answering to the shedding. The breathing has the bronchial character with bronchophony. It may be remarked that the vocal vibrations are lessened. There is an uncolored liquid expectoration resembling gum. According to Potain, the pulmonary congestion is the cause of the effusion, which remains more or less for a long time.

3. SPLENO-PNEUMONIA OF GRANCHER.

This affection is very embarrassing to the practitioner, which has all the signs of pleurisy, and is never accompanied with effusion. The following is the description given by Grancher in 1883: sudden invasion, friction, in the side often well marked; dyspnoea bordering on orthopnoea; cough painful and whimsical; expectoration gummatous; pulse very frequent. The temperature presents enough particular character. During the first week, it is about 40C.; since the second week falling near 38C.; at last in the third week it comes down to 37C. But during the third week, the febrile movement is essentially remittent, and especially after the first week it presents the great oscillations as in typhoid fever of 1 to 2 degrees, between the morning and the evening. It has never a sudden deservescence.

The physical signs are: absolute dulness, acute expiratory bruit-de-souffle as in pleurisy, egophonic and pectiloquous sound, absence of vocal vibration. Sometimes, disappearance of the vibration at the cardiac point.

It is useless to remark that these physical signs are those of pleurisy. There are, however, differential symptoms: conservation of sonorousness in the space of Traube, at the centre of the dulness, sometimes sub-crepitant rales exist. An attentive study of the thoracic vibration permits to prove the absence of focus of the dulness, it gradually reappears and spreads by degrees insensibly upwards; whereas in pleurisy thoracic vibrations reappear suddenly and in an exaggerated form above the effusion. After all, the thoracic movement which in pleurisy determines the rotation of the sternum towards the diseased side, does not exist in spleno-pneumonia.

It is not amusing to remark that all these signs are difficult to appreciate. Also, the general opinion is that the exploratory puncture is only a means to diagnose in difficult cases. It should be remembered that the normal thickness of the thoracic wall is from 8 to 10 millimeters; therefore when the needle has passed this length, it penetrates the lungs; the hole brings then a sero-sanguinolent fluid with bubbles of air.

To conclude the history of this malady, we add, that the march is slow (four to five weeks), that it seems unavoidable to be connected with tuberculosis. In the case which we have observed, the cure has been anatomically characterised by the gradual return of the vesicular murmur, the dulness still persisting for a long time after the return of the respiration.

The semiotic important point is the abolition of thoracic vibration, and the absence of effusion. It is evident that this absence is under the dependence of the state of the pulmonary parenchyma. But what is this state? It exists on the point of hypothesis, since the autopsies are defective.

However, according to M. Grancher, the lesions of pleuropneumonia are the following, "The splenisation is the special character of the epithelial pneumonia. The cellular swelling of the alveolar covering and their desquamation accompanied by an abundant sero-fibrinous exudation are the principal lesions." M. Grancher adds that "the macroscopic aspect is enough to recall to mind the passive congestion of the lungs which is smooth and red, slightly crepitant and floating in effusion. But the splenised portion of the lung is very compact, it recedes under the pressure of fingers, allowing to pour away the serous fluid and remains half submerged. The histological differences are considerable: in the congested lung the alveolar walls are free from exudation, the incision shows it contains largely air; on the contrary, in the splenisation it is nearly opaque, the alveolar walls are full of cellular epithelium and albuminous serosity.

It may be truly said that M. Grancher described the lesions after inspection and wrote: "The pathological anatomy of

spleno-pneumonia is not still constructed, the autopsies have been defectively performed."

If the lesions of spleno-pneumonia are such as M. Grancher has described, if he is the discoverer as he pretends to be, the malady of Potain is perhaps of the same nature with the spleno-pneumonia. If the malady of Woillez is an abortive pneumonia with pneumococcus, it does no more remain outside the symptomatic affections to constitute the chapter of pulmonary congestion. We believe that this is the best solution that can be given to these difficulties, which have already been described at the commencement to define pulmonary congestion. Symptomatic lesion of a certain number of maladies, is lesion characterised by sanguinary efflux, more or less considerable from the pulmonary vessels. We add that the pulmonary congestions, as all lesions, assume the character of the malady of which it is a symptom, and that the particular characters have been furnished by the authors on the basis of different varieties of pulmonary congestion.

As to the malady of Potain and that of M. Grancher, these rare affections have been well studied by their symptoms, presenting a great clinical interest, but their nature have not still been determined, though spleno-pneumonia has been especially observed with tuberculosis.

Dr. P. JOUSSET.

NEED OF AN INDIAN HOMOEOPATHIC PHARMACOLOGY.

(Continued from p. 488).

53. *Angustura Vera* or *Galpea cusparia* is available in South America. Its bark is used.

54. *Anhalonium Lowini* or Mescah button plant grows in the barren and rocky soil of the valley of the Rio Grande.

55. *Antennaria margaritacea* is found in Europe and America.

55. *Anthemis nobilis* is the common or true *Chamomilla*. It is found in England, France, Germany, Spain, Russia, Irak-Arabia, Persia and Central Asia. The flowers are mostly

used by the practitioners of Yunani system of medicine and they are supplied from Persia. It is not a fact that the Persian flowers are all derived from *Matricaria chamomilla* as is asserted by Watt. Certainly there is an adulteration of *Matricaria Chamomilla* with the true species. The flower tops of *Chamomilla* are mostly available from the Yunani apothecaries of Delhi and other principal cities of India; They are rarely in a fresh state and mostly dried. *Chamomilla* is cultivated in the gardens of North India. Its Persian name is Babuna.

56. *Apium graveolens* is a tree of America. The seeds are used for tincture.

57. *Apocynum androsaemifolium* is an American plant.

58. *Apocynum cannabinum* like its ally has its habitation in America. It is also found in India having opposite leaves, short corolla lobes and slender follicles. Several species of plants of the Apocynaceae order are available in India. The principal character of most of them consists in possessing a milky sap, often rich in India rubber and gutta-percha. The medicinal use is confined to the following species according to Watt: "It is purgative and febrifuge in *Allamanda*, *Carissa*, and *Plumeira*. It is mildly bitter and laxative in *Cerbera*, and in the fruits of certain species, it is acid sweet; they are accordingly eaten as edible fruits, such as *Carissa carandas*, *Willoughbeia edulis*, *Urceola elastica*, and *Tabernaemontana utilis*. At other times the sap is acrid and very poisonous, as in the Madagascar ordeal plant *Tanghinia venenifera*, a seed of which is sufficient to poison twenty persons. The wood, flowers, and leaves of the Olender—*Nerium odorum* and *N. oleander*—are very poisonous. So also are the nuts of *Thevetia nerifolia*."

59. *Aquilegia vulgaris* is found in Europe.

60. *Aralia racemosa* is known as an American tree plentiful in Mexico and New Granada. In India we have *Aralia*, which has compound leaves and free styles, numbering from 2 to 5.

61. *Arbutus andrachne* is the Strawberry of the Levant. It is allied to *Arctostaphylos uva ursi*. They both belong to the natural order Ericaceae. *Arbutus* is found in Asia. It remains unknown whether India possesses the plant.

62. *Arctium lappa* has habitation in Europe, Asia, and America. In India its existence is doubtful.

63. *Areca catechu* or the Betel nut palm. The nuts are triturated. The tree and the fresh nuts are sufficiently available in Bengal, Assam, and Sylhet. We can prepare tincture from the fresh young nuts. Its Bengali name is Gua or Supari (গুয়া, সুপারি). The Sanskrit is Akota, Gubak (अकोट, गुबाक).

64. *Aristolochia milhomens* or the Brazilian snake root is a native of south America.

65. *Aristolochia serpentaria* or the Virginian snake root has its habitat in North America.

66. *Aristolochia clematitis* is found in Europe.

67. *Aristolochia rotunda* comes also from Europe.

68. We have many varieties of *Aristolochiae*.

(1). *Aristolochia acuminata*. (2). *A. bracteata* or the Bracteated Birthwort. (3). *A. hastata*. (4) *A. Indica* or the Indian Birthwort is the famous of them all. It is our Isarnul (ইশারমূল) of Bengal. The Sanskrit name is Sunanda, Isvarmul (সুনন্দা, ঈশ্বরমূল). The peculiarity of the *Aristolochiae* is that they are mistakenly considered antidotes of snake poison. Isarnul has that fame, but it has not proved so by experiments of Sir Joseph, Fayrer and Dr. Mahendra Lal Sircar. Watt writes: "The early Portuguese settlers called it *Rais de cobra*, owing to its supposed efficacy against the bite of the cobra, being both taken internally and a powder of the root applied externally to the injured part." (5). *A. longa* or the Long-rooted Birthwort. (6). *A. rotunda* or the round rooted Birthwort. The point for remark is that tinctures of dried roots form the medicinal preparation of *A. rotunda* and *A. serpentaria*. The dried root of *A. serpentaria* is sufficiently available in India.

69. *A Armoracea sativa* or the Horse-radish is known as *Cochlearia armoracia*. It is found in Europe, Asia and India.

70. *Arnica montana* or the Leopard's leave is mostly found in Europe, and scantily in India, being cultivated in the gardens of North India. It is observed in the Himalaya near Kumaon.

The importance of the plant wants its greater cultivation in India.

71. *Artemisia absinthium* or the common Wormwood is found in North Asia, Afghanistan and westward. We get our supply from Persia and Afghanistan. In Persian and Hindi, it is known Afsantin, and by that name it is available as a dried substance from Yunani apothecaries. (See Absinthium).

72. *Artemisia abrotanum* is a garden plant of India. (See Abrotanum).

73. *Artemisia vulgaris* or A. Indica is known as the Indian Wormwood. It is found in Sikkim, the West Himalaya, Khasia hills, Manipur, and the mountains of North Burma. The Sanskrit name is Nagdamanu, or Nagdalan (नागदमनौ, नागदलन) The Bengali name is Nagdana (নাগদিনা).

74. *Artemisia maritima* or the Worm seed, or Santonine, is found in India in the Western Himalaya from Kashmir to Kumaon and is abundant in salt plains. The European market is supplied from Russia, and we generally get the flower heads from the Delhi market which is A. Persica. Watt calls its Persian name Afsantin-ul-bahr and Sarigun. But among Yunani apothecaries of Calcutta, it is known by the name of Brunjasaf. We procured the flower heads in Calcutta, probably A. Persia and made tinctures from them, which gave ample satisfaction. (See Cina).

75. Another variety *Artemisia Sieversiana* is also known by the Persian name of Afsantin. It is generally mixed with A. absinthium.

76. *Arum dracopium* or Green dragon is an European plant.

77. *Arum dracunculus* or Dracunculus vulgaris has its habitat in Europe.

78. *Arum italicum* comes from Italy and other parts of Europe.

79. *Arum maculatum* is an inhabitant of Europe.

80. *Arum triphyllum* or Arisaema atropurpureum is an American plant. It should be said that the Aroids comprehend many species of irritating plants. In India we have no less than

twenty four kinds of of Aroids. The well known among them are :

1. *A. campanulatus* or *Amorphophallus campanulatus*.
2. *A. colocasia* or *Colocasia antiquorum*.
3. *A. cucullatum* or *Alocasia cucullata*.
4. *A. curvatum* or *Arisaema curvatum*.
5. *A. cuspidatum* or *Arisaema cuspidatum*.
6. *A. divaricatum* or *Typhonium divaricatum*.
7. *A. flagelliforme* or *Typhonium cuspidatum*.
8. *A. fornicatum* or *Alocasia fornicata*.
9. *A. gracile* or *Typhonium gracile*.
10. *A. Indicum* or *Alocasia Indica*.
11. *A. lyratum* or *Amorphophallus lyratus*.
12. *A. margaretiferum* or *Plesionium margaretiferum*.
13. *A. montana* or *Alocasia montana*.
14. *A. nymphaeifolium* or *Colocasia antiquorum* var. *nymphaeifolium*.
15. *A. odorum* or *Alocasia odora*.
16. *A. orixense* or *Typhonium trilobatum*.
17. *A. rapiforme* or *Alocasia rapiformis*.
18. *A. sessiliflorum* or *Sauromatum sessiliflorum*.
19. *A. speciosum* or *Arisaema speciosum*.
20. *A. sylvaticum* or *Syrantheris sylvatica*.
21. *A. trilobatum* or *Typhonium divaricatum*.
22. *A. tortuosum* or *Arisaema tortuosum*.
23. *A. viviparum* or *Remusatia vivipara*. Of these, few are well known. *Amorphophallus campanulatus* is ol (ওল). *Colocasia antiquorum* is Kachu (কচু). *Alocasia Indica* is Mankachu (মানকচু). *Arum dracontium*, the Green Dragon may be equal to our *Colocasia antiquorum*. Dr. C. S. Kuli identifies *Arum triphyllum* with Bhetkol (ভেটকোল). Bhetkol has foetid smell like *Arum dracunculus*. *Arum triphyllum* does not seem to possess that kind of foetid smell. More observation is necessary to identify Bhetkol with *Arum triphyllum*. *Arum maculatum* or the Cuckoo pint is cultivated in Indian gardens. The uncultivated *Amorphophallus* (বনওল) seems to be the most poisonous of them all.

81. *Arundo mauritanica* is an Italian grass. Its other name is *A. pliniam*. We have the grass in the North West Himalaya.

82. *Asagraea officinalis* is Cevadilla or Sabadilla, and comes from Mexico. The dried seeds are imported in India.

83. *Asafoetida* is derived from *Narthex asafoetida*. The tincture is made from the gum-resin and sufficiently available in the Calcutta market. The Bengalee name is Hing (হিং) and Sanskrit Hingu (हिङ्गु).

84. *Asarum Europeanum* or Asarabacca, Hazelwort, Wild nard, Foalfool, is common in Europe. It is found in North Asia and the Panjab Himalaya. In Arabic it is called Asarun and as such it can be procured from Yunani druggists. Watt writes its Sanskrit name Upana (উপান). We do not find the word in the Sanskrit medical dictionary. Dr. T. F. Allen in his Hand Book of Materia Medica says: "The Asarabacca (*Asarum Europeanum*) is a native of Europe and closely allied to the American wild ginger, *Asarum canadense*." It seems that the plant is an allied species of our wild *Asarum* or Banada (বনআদা).

85. *Asarum canadense* comes from America.

86. *Asclepias curassavica* is an American plant but naturalised in India. The Panjabi name is Kaktundi.

87. *Asclepias incarnata* is also derived from America.

88. *Asclepias syriaca* has its habitation in America.

89. *Asclepias tuberosa* is derived from America. The most powerful of them is our *Asclepias gigantea* (আকন্দ). See *Calotropis gigantea*.

90. *Asimina Triloba* is said by Dr. Clarke Paw Paw or Custard Apple. Dr. Allen says: "Pawpaw is a small tree growing in the South and South west of the United States, ripens a fleshy fruit, which is edible when ripe." Our contention is *Asimina* is Pawpaw or *Carica Papaya* and not Custard apple or *Anona*. *Asimina* belongs to the order Passiflorae and Custard apple is within Anonaceae. *Carica Papaya* originally came from *Carica* a district of Asia minor. Custard apple most probably has come from America. *Anona* has two varieties *Anona reticulata* (দোন্ডা) and *Anona squamosa* (অভি, শরিক, জীতাকন). A.

reticulata, the Bullock's heart is the true Custard apple of the West Indies. *A. squamosa* is our cultivated Custard apple. It seems that *A. squamosa*, the Indian variety which is so much used as a delicious fruit is the cultivated variety of *A. reticulata* which is found wild in Cuba, Jamaica and the West Indies. The possibility is that *A. reticulata* was brought from America at the end of the seventeenth century in India, and after gradual cultivation has assumed the distinct species of *A. squamosa*. There are other evidences of the importation. *A. squamosa* is never seen in a wild state, in large clusters in India, as has been asserted by General Cunningham. In Bengal, *A. squamosa* is mostly observed in Sonthal parganas. Even there the wild state of the plant is not seen. For medicinal use *Asimina* or Pawpaw in the raw or ripe state serves the purpose. It can not be said that *Anona squamosa* has no medicinal action.

91. *Asparagus officinalis* is said to come from Europe. In India, there are several species among which *A. officinalis* is known by the name of Nagdoun, in Hindi. The following is from Watt: "There are several wild Indian species used by the hill-people of Eastern India. The Indian species have climbing or trailing stems, often spinose. The cultivated asparagus of Europe is a native of several parts of Great Britain near the sea. It is also very plentiful in the southern parts of Russia and Poland. It is frequent in Greece and was formerly much esteemed as a vegetable by the Greeks and Romans. It appears to have been cultivated in the time of Cato the elder, 200 B. C., and Pliny mentions a form which grew in his time, of which three heads would weigh a pound.

We have 1. *Asparagus adscendens* is known in Hindi *Safed musli*. 2 *A. filicinus*, a Panjab plant. 3 *A. officinalis* is found in Eastern India. 4 *A. Punjabensis* is found in the Panjab. 5 *A. racemosus* is the Satamuli (সতুলী) of Bengal, and 6 *A. sarmentosus* is also Satamuli and commonly found in the Konkans and the Deccan, sometimes in Upper India. *A. racemosus* is largely used in Bengal for medicinal purposes.

(To be Continued.)

EDITOR'S NOTES.

A Note on the Bacteriological Examination of Milk.

Dr. Newman, the Medical Officer of Finsbury has supplied the following note to the December number of *Public Health*.

"The importance of, and need for, a safe minimum of bacteriological examination and a broad standard as to purity of milk.

A minimum bacteriological examination of milk should include :—

1. *The number of bacteria per cubic centimetre.* This is of relative importance only, it has little if any absolute value, as, of itself, it affords no safe guidance as to quality. It has recently been suggested in England that a suitable standard can be laid down, namely, 100,000 organisms per cc., but this, as every milk bacteriologist knows, is altogether impracticable. The Philadelphia Milk Commission laid down a standard of 10,000 bacteria per cc., and no pus cells or injurious germs. The New York Milk Commission set the figure at 30,000. Both standards are impracticable from a bacteriological point of view and from an hygienic. Such estimations are valueless unless carried out on precisely identical conditions as to media, incubation, temperature, time of counting, method of counting, etc. Moreover, good, fresh milks often contain many thousands of organisms per cc.

Numerical estimation only of scientific value when (a) making a series of comparative examinations under precisely similar conditions of the same milk supply, and (b) making examinations after filtration of milk, or pasteurization, sterilization, etc. Leighton, of Montclair, U S A., has shown the utility of comparative series, and that the number of colonies growing on media bears a direct relation to clean or unclean dairying.

2. *The kinds of bacteria and toxins present in milk.* Methods of determination discussed. Classification of species :—

(a) Lactic organisms—forming, as a rule, from 60 to 90 per cent. of all bacteria present in milk.

(b) Organisms indicative of contamination, e.g., *B. coli communis*, *B. enteritidis sporogenes*, *B. enteritidis* of Gaertner, streptococcus, and organisms of dust, soil, and manure—a number of the latter being acid fast.

Methods of isolation and proportionate presence of these organisms discussed. The presence and pathogenicity of streptococcus discussed. The mere presence of organisms having morphology of streptococcus insufficient, as such are found frequently in good milk. But

virulent streptococcus may occur in milk drawn from inflamed udders (mammitis) Bergey's work on streptococcus in market milk, Gordon's work on streptococcus in human saliva. The relationship of the organism in saliva, soil, etc., to milk. Importance of testing virulence.

Delepine's work on the *bacillus enteritidis* of Gaertner; animal inoculation the only reliable test. The virulence of milk containing this organism. Probable source of organism the intestine of the cow. Klein's examination of milk in City of London, 1904, and the relative presence of organisms of indication discussed.

(c) Pathogenic organisms, such as *B. enteritidis* of Gaertner, *B. diphtheriae*, *B. tuberculis*, and *B. typhosus*.

Methods of determination and the frequency of their presence.

3. *The presence or absence of organic cells foreign to clean milk (pus, blood, yeast) and the quantity and nature of general dirt and particulate matter other than milk constituents.*

The Woking Bedford, and other outbreaks in which pus cells were found. The Lincoln yeast (Klein).

4. *The degree of Acidity.* Particular attention was drawn to this test as the most ready, and rapid, and on the whole, the most reliable general test as to the staleness or otherwise of a milk.

Method of determination: 100 cc. + 2cc. of a 0.1 per cent solution of phenol-phthalein and subsequent titration with a deci-normal solution of caustic soda until faint pink colour begins to become permanent. Generally some 15-20 cc. of $\frac{N}{10}$ alkali necessary. Each cc. of $\frac{N}{10}$ solution is termed "one degree of total acidity," and is equal to about 0.009 grams of lactic acid. Important point, *total acidity*, which shall not exceed 24-25 degrees.

Value of the test discussed. Chemical analysts might at once carry out such examination and enter results in certificates along with fat and solids not fat. No new machinery needed to obtain results.

A suggested Bacteriological Standard of purity of milk for practical purposes:—

(a) Not more than 24-25 degrees of total acidity.

(b) Not an excess of pus or blood cells.

(c) Not any *B. coli*, *B. enteritidis*, *sporogenes* or *B. enteritidis* of Gaertner in one cc.

(d) The milk to be nonvirulent. Test of virulence in animals not always fair criterion of actual danger to man, but a *prima facie* case against the milk.

(a) and (d) to be fixed and *absolute* standards upon which, when necessary, action shall be taken against the vendor of the milk. The case of *Roberts V. St. Pancras Borough Council* was cited; judgment at Tower Bridge Police Court, May 12th, 1905, milk proved to be virulent by animal inoculation. The taking of action high degrees of acidity not less reasonable than taking action on fat percentages, and of more value as an indication of unsatisfactory quality of milk.

(b) and (c) to be *relative* standards necessitating not legal proceedings but further enquiry into the health of the cow, and the efficiency and cleanliness of the whole dairying process, including the milk-shop treatment, and the contractor's "manipulation." If topographical findings rather than bacteriological are more reliable in respect of dysters, the same is still more the case in respect of milk. Milk should be judged broadly by topographical facts as well as chemical and bacteriological. Excess of pus or blood cells, or the presence of organisms of contamination in $\frac{1}{2}$ cc. should indicate further enquiry in all cases."

It will be seen that bacteriological examination has taken the precedence before the chemical analysis. The safety of health is supposed to be due to the detection of the pathogenic bacilli. It is essential that a Health Officer should not only be a bacteriologist but also a medical man knowing the relation of bacteriology with physiological pathology and clinical medicine. We are not satisfied that the sanitation of Calcutta can be safely placed under the care of an only D. P. H.

As for the bacteriological analysis of milk, it can be said that the milk supply of Calcutta labours under a great disadvantage being without any regulation to control its adulteration. The mischief of bad milk is continually on the increase.

Phagocytosis.

The British Medical Journal of October 21, contains the following interesting observation:

"Mr. L. S. DUDGEON and Dr. ATHOLE ROSS read an abstract of some experimental work which they had recently carried out on phagocytosis. They had investigated the blood, bone marrow, peritoneal exudate, and the great omentum subsequent to intraperitoneal injections of the following micro-organisms, toxins, and certain other substances, namely: *Staphylococcus pyogenes aureus*, *staphylococcus albus*, *streptococcus pyogenes*, *pneumococcus*, *bacillus pyocyaneus*, *bacillus typhosus*, *bacillus coli*, *bacillus coli* killed by

heat, bacillus aerogenes capsulatus, bacillus coli after previous injection of morphine, filtered cultures of the bacillus pyocyaneus, a 2 per cent. sterile solution of nucleic acid, sterile normal saline solution, and a sterile suspension of finely-divided chalk in normal saline. The inoculations were made into rabbits and guinea-pigs, which were killed at the end of the following intervals of time: 15 minutes, 1 hour, 2 hours, 4 hours, 6 hours, and at 24 hours. The blood was examined, in every instance, before and immediately after each injection of the above substances. The total count of leucocytes per c. mm. of blood, differential counts of 500 leucocytes, a differential count of 1,000 marrow cells, and a similar examination of the cells in the peritoneal exudate was made in every instance. In addition, the peritoneal fluid was examined in the fresh state, and stained film preparations from the great omentum were made.

The great Omentum — This was found to play a very important part in every instance. The authors agreed with the researches previously made by Durham that cells may be found on the great omentum in large numbers, though extremely scarce in the peritoneal exudate, and the tendency is for bacteria and phagocytes to be deposited in large numbers on the great omentum in all peritoneal infections. For instance, subsequent to intraperitoneal injection of the bacillus aerogenes capsulatus they found 90.2 per cent. of finely-granular poly-nuclear cells in the peritoneal exudate, but none contained micro-organisms, while on the great omentum 99.6 per cent. of these cells were found, and every one was phagocytic. In such cases the omentum is rolled up and retracted towards the diaphragm, and very much injected. Three guinea-pigs received intraperitoneal injections, with strict bacteriological precautions, of sterile normal saline solution and were killed at the end of two, four, and eight hours respectively. In every instance the peritoneal fluid was sterile, but the staphylococcus albus was grown from the omentum. Seven guinea-pigs received intraperitoneal injection of a sterile suspension of chalk in normal saline, and were killed at the end of two, four, and eight hours and twenty-four hours respectively. In every instance the peritoneal exudate was sterile, but in six out of seven cases the white staphylococcus was cultivated from the great omentum.

The blood. — They found that within a period of fifteen minutes from the time of inoculation the total number of finely-granular poly-nuclear cells was increased in every instance, while the percentage total was raised in most cases. In the later experimental similar results were obtained. The coarsely-granular eosinophiles

were sometimes increased in the first three instances, and diminished in the last three in every experiment.

The Peritoneal Exudate — Fluid was present in large amount in all the earliest experiments and diminished in the twenty-four-hour cases, with the exception of those examples in which the peritonitis was due to the colon bacillus and bacillus pyocyaneus. In most instances the chief cell in the peritoneal fluid in the fifteen-minute experiments was either the small lymphocyte or the coarsely-granular eosinophile, while in all other experiments the finely-granular poly-nuclear cell predominated. Macrophages in the earliest and latest experiments were frequently found in fair numbers. One of the most important phagocytes in the fifteen-minute, one-hour, and two-hour cases was the coarsely-granular eosinophile, which very often contained many micro-organisms, and in some instances, a large number of these cells were found to be phagocytic. In one case, 82.2 per cent. of the cells in the peritoneal exudate were of this variety, and 208 out of 500 contained micro-organisms. Bacilli which were ingested were found to be swollen and in many instances beaded. The finely-granular poly-nuclear cells were, however, the most important phagocytes from one hour, onwards in nearly every case. These leucocytes were found to be ingested by the macrophages in some examples. Agglutination of every variety of cell—with the exception of the small lymphocyte and the coarsely-granular eosinophile—was a regular phenomenon. In the guinea-pigs which had been inoculated intraperitoneally with the bacillus coli subsequent to hypodermic injection of morphine, intraperitoneal phagocytosis was unaffected, but the number of leucocytes in the blood were diminished in most of the experiments.

The Bone Marrow — The authors of this paper always examined the bone marrow in every experiment, from a period of fifteen minutes up to and including twenty-four hours after the onset of infection, and they have almost invariably found the granular lymphoid type of cell to be the most important leucocyte in these cases. They also pointed out that their results could not be in any way compared with those of the vast majority of other observers who have examined marrow in these cases after a lapse of several days. They agreed with Dr. Price Jones as to the scarcity of the finely-granular poly-nuclear cells in the bone marrow. Although they found that the nucleated red cells were increased in many instances after inoculation in both guinea-pigs and rabbits, this was especially so in the case of the pneumococcus and of the

streptococcus pyogenes when inoculated into rabbits. They found that the type of marrow in these cases was of the lympho-erythroblastic class. No phagocytosis was ever seen. The "neutrophile reaction" type of marrow described by Muir in septic conditions of many days' standing was not observed by them in their experiments, within a period of twenty-four hours. Mitotic figures were never seen and giant cells did not appear to play any important part in marrow reaction. The coarsely granular eosinophiles were only present in small numbers in the bone marrow in nearly every instance."

When Ehrlich's theory of immunity was published, it was thought that his theory will supplant the observation on phagocytosis. We always entertained the doubt that a theory cannot suppress an actual observation. It now happens that there are peculiar cells which serve the purpose. The eosinophile and the polynuclear cells are of great importance. The lymphocytes perform the same task.

(CASES BY DR STAUFFER, MUNICH.)

Cocculus Indicus.

1. A lady, thirty years of age, noticed a year and nine months ago that catarrh of the stomach was setting in, which slowly grew worse; she was under medical treatment and was treated for some time with rinsing out the stomach, but without result. Later on the treatment was discontinued, nor was there any more dieting. In March, 1904, owing to the aggravation of her troubles, *Pepsin*, *Muratic acid* and *Quinine* were prescribed. The pains continued to increase, and she was especially troubled with heartburn. Then pregnancy supervened and since then her stomach troubles have been worse, she can only bear the smallest quantity of any food. There is aversion to food and drink, especially to meat. Alcoholic liquors and coffee cause a decided aggravation; she can not bear fruit. Much vomiting, and thence increase of her debility. Since her treatments so far with water from Carlsbad and dieting availed nothing, I undertook her treatment on July 18, 1904.

The lady was much debilitated, emaciated and anæmic, pregnant in the fourth month. The organs were all healthy except the stomach and the intestines. Her ailments were the following: "The first breakfast, taken in bed, is generally borne well, but after the other meals, even if little is eaten and only such things as are easily digested, there is nausea, salivation, and frequently vomiting of the ingesta, followed by relief; aversion to food and drink, constriction of the œsophagus at the mere thought of food, cramps in the stomach;

motion and excitement aggravated her state even to swooning. Every day there are severe pains in the stomach and the abdomen from the accumulation of flatus. There is a most stubborn constipation, on account of which she has been taking *Rhubarb* up to 8 g. a day. After stools there is a violent, painful constriction about the anus. From 10 A. M. to 4 P. M. she has severe pains in the occiput which extend to the forehead. The renal region is very painful to the touch; now and then there are external swellings in that region; no albumen nor sugar in the urine. The physicians had explained the swelling as a chronic inflammation of the connective tissue about the kidney. There is also severe tearing toward the small of the back and the coccyx, radiating into the pelvis; these were explained as due to chronic inflammation of the ovaries on both sides; cold water compresses had been used to counteract this. Flushes of heat, tendency to palpitation of the heart; feverish temperatures often rise to 101°. Prescription; *Cocculus* 6, three drops, three times a day.

July 20, 1904. There has been no return of the vomiting and the cramps; there is a slight catarrh of the bladder. *Cocculus* is continued in alternation with *Pulsatilla*.

July 31. The improvement progresses, the catarrh of the bladder has disappeared. The pains in the occiput have not returned. The appetite is better; there is no more aversion to food. The general state of health is considerably better. The stool is still defective and the flatulence is the same. Lavements with warm water. *Cocculus* 6 is continued.

August 15. Owing to periodical pains resembling labor pains, she was ordered to bed for a few days. Urine is clear when discharged, but later there is a copious sediment of uric acid. The pains in the renal region and in the small of the back are considerably better. Her sleep is good. *Cocculus* 12.

August 25. The improvement progresses, she feels stronger and healthier, the appetite is good, the labor pains, the cramps, and the headache have disappeared: *Cocculus* 12, three times a day, is continued.

November 22. The pregnancy takes its normal course with occasional troubles in the intestines, as the stool is still not regulated; no other medicines than *Cocculus* were prescribed. Lately even this remedy was only given when pains or troubles in the stomach threatened. Then it always gave an instant relief. The family then moved to another town, from which I was informed in March of this year that the mother was delivered of a vigorous and

healthy child. The health of the mother, as I was informed, was excellent. The stool has improved since the birth of the child, so that there is a spontaneous stool every two to three days, although with some trouble. *Pylina*, which I prescribed, or, if necessary, some other remedy will also remove this last symptom.

This case was a pronounced *Cocculus* case, wherefore I preferred not to give any intervening remedy, excepting *Pulsatilla*. The symptoms in the bladder may be ascribed to the metabolic changes caused by the remedy. The Perinephritis, which was supposed by the one party, and the oophoritis diagnosed by another party may naturally be explained as having been spinal irritation. There was not a pronounced case of *hyperemesis gravidarum*, as the stomach troubles for the most part existed already before pregnancy. Since nothing objective could be discovered in the stomach, the symptoms were only to be viewed as nervous irritations. The supervening pregnancy no doubt considerably aggravated the gastric symptoms. For the rest, however, *Cocculus* may, very well be used in *hyperemesis gravidarum* with good success, whenever the other nervous symptoms point to it, since this ailment is a reflex symptom from the brain, or an irritation of the vegetative nervous system quite similar to sea-sickness. A change in the potency from the 6 to the 12 seemed to be indicated, since in consequence of the resolved reaction, which was too strong, the pains resembling labor pains appeared, reminding one of a threatened abortion. The downward pressure may, however, also be brought into connection with the excretion of the uric acid or with the disorderly stools. There was no noticeable change in the favorable action on the stomach troubles and the spinal irritation when the potency was changed.

II. The second patient was a lady thirty-two years old. I saw her first in the commencement of March, 1904. Before that she had been treated by various professors and specialists. The patient was sitting in bed with her limbs closely drawn up; she could not turn her head owing to the violent pain in the occiput and in the back of her neck, every movement causing a severe aggravation of the pains; she could not even move her eyes, and in consequence there was something staring in her eyes, and a look of expression. There was a high degree of anæmia, since she could take hardly any nourishment and could not sleep at all. This state had continued for three and a half months, and no

treatment had been of any use. There was also a great sensitiveness of the spinal column; great weakness and paralysis in the whole of the back, tearing and lancinations alternating in the legs. She also especially complained of chilliness in the back, her legs also were always ice-cold, and there was a sensation as if there were needles of ice under the skin. The sensory was benumbed, the memory very bad, and great irritability, together with indifference; the patient complained also that she always felt as if reeling from intoxication. This state had come upon her very suddenly, without visible cause and yet proved very stubborn. There was no cause that could be adduced for her ailment. Her grandfather on the mother's side had long been paralyzed, owing to a paralytic stroke. One party diagnosed an inflammatory process in the cerebellum, a tumor had also been thought of. One of the celebrated authorities had shortly pronounced the whole matter to be hysteria; but as the case was further observed, not a single hysterical symptom could be seen. The whole case was so complicated that I could form no diagnosis. On the basis of the symptoms I gave her *Agaricus* 6, and was considering *Zincum*. But *Agaricus* did not produce the slightest improvement in the succeeding days, though I had expected a useful action. In completing the anamnesis, I found out that the patient when twelve years of age had suffered from abdominal convulsions had commenced menstruating with thirteen years, always with cramps; later on she had a retention of urine, lasting for six days; she had married without having quite recovered from this affection of the bladder. Four weeks after her marriage she had a severe tedious inflammation of the abdomen. Then there was abortion caused by an incautious examination by a gynecologist; after this she had had for three years in succession every year a child. Then preservative remedies were used; four years later there was a fourth normal birth, followed by a parametritis, and next year an abortion. After the next three births there appeared, with the utmost punctuality as to day and hour, on the ninth day after every menstruation a so-called *perineal* pain, which lasted only a few hours, but was so violent that the woman was always for a week as if she had been on the rack, and could not fully recover, before the painful menstruation would again set in. The menstruation was always long continued and copious. The nine days succeeding would then be tolerable, but her dread

of the new attack she apprehended did not allow her to recuperate. The perineal pain began in the small of the back, radiating towards the pelvis; it was convulsive with meteorism; the stool was omitted this day and the next; at times there followed a copious, sharp fluor albus. The back and the small of the back were extremely sensitive to the touch. Every movement aggravated the state, and the legs were afterwards as if paralyzed with the most varied paresthesias. The pain in the occiput described above was accompanied with an intense vertigo, especially when sitting up, with nausea, vomituria and even vomiting of mucus and gall. For years before, it had been impossible for her to ride in a carriage or in a railroad car without attacks of vertigo and vomiting. Besides this she has an aversion to eating, and eating aggravates her troubles, but even more the use of alcoholic liquors.

Based on these symptoms, I gave her *Cocculus* 4, three drops every two hours. This at first caused a violent aggravation. Then I asked her to take the remedy only three times a day; but it continued to cause aggravations. I then gave her *Cocculus* 8 and 16 D., three times a day, three drops, and in the course of two weeks the pain in the occiput, the vertigo and the spinal irritation had pretty well disappeared. The lady now rides in the automobile and in the railroad cars without any trouble. The perineal pains have not left as yet; there was, indeed, for three times an intermission, and it has diminished in intensity, but the dysmenorrhœa has ceased. Later on several remedies were given against the perineal pain, especially *Thuja*, on account of a suspicion of a gonorrhœal infection at the beginning of her marriage. Then also *Nux vomica*, *Sulphur* and *Lycopodium* were given; the latter proved so far the most useful remedy; also other remedies were tried. A gynecologist thinks he has established an inflammation of the surrounding parts, and spoke of a surgical operation; but I felt myself compelled to dissuade from this, as I could not find any urgent call for it. According to my opinion it was a nervous symptom, as seems to be indicated by its periodical appearance, as well as the great excitability of the patient. In all likelihood the use of the preservatives during sexual intercourse (a condom on the part of the husband) may be the cause; at least I have seen this symptom disappear in quite a similar case when the natural sexual intercourse was resumed. An additional pregnancy would probably make a change. The diagnosis in this case

we can in conclusion draw with some certainty. There was neither a tumor nor hysteria, but merely a great degree of spinal irritation with its consequences. The fundamental ailment may probably be found in the organs of the sexual region, either because a chronic inflammation there still continues, or that the sexual life of the woman suffered from a continuous disturbance through the preservative means employed. *Cocculus* in this case cured the consequences, but the primary ailment is manifestly beyond the reach of the remedy.—*The Homœopathic Recorder*. November 15, 1905.

SOME CASES OF TRAUMATIC NEUROSIS.

By Dr. Stiegele, Stuttgart.

CASE I. On the 13th of March, 1903, there came to my office (C. N.), fifty years of age, a subordinate official in the post-office. He gave the following statement:

On the 3rd of September of last year he had received a violent knock in the right flank by a mail wagon that was delivering mail, and since that time he had felt a pinching in the whole of his abdomen and back in the right side: this also appeared spasmodically, especially after excitement or over-exertion. When such an attack comes to an end a convulsive pain draws from the back and the right side of the abdomen right across the body into the cardiac region and convulsively grips the heart together, there is a violent palpitation of the heart and a cold perspiration breaks out. Nausea and swooning. On account of these attacks he has been out of service since October last till now (March 13) and under the medical supervision of the railroad physician and of a surgical specialist. Since the attacks recur at every slight exertion, and since repeated efforts to take up the service again have proved ineffectual, he was to be put on the retired list.

My examination showed a moderate dilatation of the heart to the right and to the left the sounds of the heart are pure, but very soft, the pulse small, moderately frequent, 95. No positive effects could be found on the spot where the traumatic lesion had taken place. According to the statement of the patient he had been well before that time; nor had he ever had reason to com-

plain of his heart. His general health at this time is not altogether satisfactory, especially as to appetite and sleep. But all this essentially coheres with his mental depression owing to the impending retirement.

When the form of disease peculiar to the patient is as its height in its attacks it presents one of the manifold kinds of angina pectoris, corresponding exactly to a certain stage of poisoning with *Veratrum album*.

Also the anatomico-clinical image with the chronic dilative weakness of the heart confirmed these pathological grounds. But it was clear that *Veratrum* only covered a part of the morbid processes present. The traumatic ætiology as well as its ending with an irritation chiefly involving the nervous system (overexertion or mental excitement) were as yet unprovided for. I therefore gave besides *Veratrum* 6, also *Hypericum berf.* 6. The peculiar nature of the case probably justified the use of two remedies. To this was added the practical consideration that not much time could be lost with therapeutical experiments as his retirement was imminent.

March 27, 1904. There has been only one weak attack since. The patient later on undertook more bodily exertions without any ill effects. Objective state: There is no more dilatation. The pulse is 80, more vigorous, the heart tones are louder; medicine repeated.

April 27, 1904. Good progress. He has resumed his work, and is now serving as a carrier of despatches, which speaks well for his working ability. Since that time I have frequently seen the man, he is quite well, and has nothing to complain of.

This was therefore a typical case of the so-called vasomotor form of traumatic neurosis.

CASE II.—J. A., thirty-seven years old, a glover, told me, in my office, on April 18, 1904, that he has been suffering since he had a fall on his belly in the year 1901 from pains on the left half of his abdomen; the pains being worst about two hours after a meal; as soon as he then eats again there is relief; the patient never suffers from vomiting or eructation, the stool is somewhat indolent, without any further trouble. Appetite and thirst offer no peculiarities. When the pains are at their worst palpitations

of the heart set in. The patient has consulted several different physicians; the last stomach specialist whom he consulted spoke of the glands in the stomach which ought to be extirpated. The general examination brought no noteworthy deviation from these statements. But to the left of the navel, and in the same altitude, there is something resisting in the depth of the abdomen; in the right hypochondriacal region there is a similar swelling, only somewhat more oval in outline.

The symptoms of pains ameliorated by eating we find in several remedies; *Carbo anim.*, *Graph.*, *Jod.*, *Gummi gutti*, *Lachesis*, *Lycop.*, *Mezer.*, *Psor.*, etc.; but *Jodium* seemed best fitted to the case. Its use was however accompanied by only a temporary effect.

May 13, 1904. In view of the traumatic origin of the morbid state I gave *Hypericum berf.* 6, five drops three times a day.

June 2, 1904. The patient reported that he had a good time; for fourteen days he had felt nothing at all; to-day, for the first time, the pains had reappeared.

The local symptoms on examination were found the same. Medicine repeated.

June 20. Continued good condition; he could let four hours pass without having to eat. Repeated.

July 10, 1904. He feels free from his trouble.

March 19, 1905. His condition has been good until four weeks ago, when, owing to the death of his wife, he passed through severe bodily and mental troubles; now soon after eating the pains would return, which would last until he ate again. Medicine repeated.

April 2, 1905. All the troubles have disappeared.

August 15, 1905. He again came to my office on account of his child. He continues well. An examination showed exactly the same objective symptoms as the first examination. The small tumors had still the same size and the same high sensitiveness to touch.

There seemed to be a fibrous transformation of the glands of the abdomen, whose return to their former state was only gradual and was not necessary to the cure. The fact that the pains dis-

appeared as soon as the stomach was occupied may probably be best explained by the variation in the circulation caused by this change. During the digestion there is considerable flow of blood towards the organs engaged, so that an ischæmic disencumberment of the swelling may be thought of. A parallel process we have in an increased measure in every inflammation, where by securing a higher position of the parts affected the progress of the blood is rendered possible and thereby a quick relief from the pains is obtained.

The effect of *Hypericum* is, of course, to be looked for in quite a different direction. It lies in a diminution of the pathologically increased sensitiveness, perhaps also in a diminution of the reflex irritability.

The relation of St. John's wort (*Hypericum Perforatum*) to the nervous system was already recognized and acknowledged by Paracelsus.

He especially emphasized the action of the plant upon the nervous organs at the centre and used *Hypericum* in cases of "idiocy and seeing of ghosts and specters," so against the mania for suicide; also against disturbances of the psyche, but also its peripheral action was well known to him; for he was the first one to propose it as a remedy in numbness.

The value of *Hypericum* in wounds has been handed down from ancient times among the common people. In modern times the influence of the remedy on lesions of the peripheral nervous system has been confirmed and the traumatic etiology of an affection has been established as a special indication or characteristic symptom. Among the characteristic symptoms Hering enumerates the following.

"After a fall, the least motion of the arms or of the neck causes a scream; the cervical vertebrae are very sensitive to the touch; consequences of a concussion of the spine, contusions, crushed fingers, especially the finger-tips, tearing of the nerves with tormenting pains, convulsions after a knock or blow on the head." Hering called *Hypericum* the chief remedy in traumatic neuritis, especially after punctured wounds.

Dr. Lambert gave an address in the year 1900, before the "British Homœopathic Society," in which he also emphasized the

relations of this plant to affections with traumatic etiology, as being very characteristic. He mentions a case of traumatic epilepsy (lesion of an eye by a nail), cataract (anterior synechia), as also a case of traumatic spinal paralysis. he also describes at length a case of brachial neuralgia after a lesion, which, after a number of fruitless trials of other treatments, was cured with *Hypericum*. Also a number of other neuralgias, e. g., ischias, when in the region into which it extends there is a pricking, burning pain with a sensation of numbness, smooth skin or also a formation of blisters; all these, according to Lambert, fall in the domain of *Hypericum*. According to the same author it proves itself useful in rheumatism with sharp lancinating pains, which frequently change their place. Frequently there is great hyperæsthesia. Mitchell mentions a case of canceroid of the *portia* with excessive pains, which proved obstinate to all remedies, while *Hypericum* at once cured the pain. Lambert recommends its use especially in wounds from bites, in pains after operations, and also as a preventive.

In the discussion Dr. Goldsbrough, praised the remedy in neuralgia of the intercostal and lumbar regions. It proved itself useful in three cases of a myelitic character. Dr. McNish reported another noteworthy case; A man received a knock in the right lumbar region which disabled him from work for three months. The physicians connected with the accident-insurance declared his case as an incurable spinal trouble; *Hypericum* restored his ability to work within six weeks.

The tendency to numbness already noticed by Paracelsus was also in one case a useful indication for me: M. E., Schneider, 24 years old, came to my office on February 16, 1901. He stated that he was taken sick in his sixteenth year, of an inflammation of the right elbow-joint, which was followed by a chronic suppuration. The treatment of this manifestly fungous affection had been by an operation. Since last spring he felt a buzzing in the right arm up into the finger-tips; especially in the thumb and in the ring-finger, a sensation as of formication. This paræsthetic symptoms are continually present. An examination did not show anything but a slight ankylosis in the right elbow-joint, no other macroscopic changes. *Hypericum* 3, three times a day five drops.

February 26, 1901. A week after the drops he felt great relief.

March 2. The morbid symptoms have altogether ceased.

June 2, 1901. Similar symptoms reappeared, but promptly disappeared on giving *Hypericum* B. I lately saw the man again, when he came to see me about a cut wound. According to his statement the paræsthesia did not reappear. This was a case of acroparæsthetic phenomena. This ailment consists, according to Eulenburg, in paræsthesia in the hands and fingers, more rarely in the feet. The morbid sensations mostly appear as formications. Laquer considers the state as "a neurosis of employment" and found these cases especially in persons who have to do much work with their hands. That under such conditions a trauma, even when it is situated further back, may obtain a certain predisposing significance should not be subject to doubt. In the definition of "neurosis of employment," there is already contained a certain traumatic notion. In the case already described, where the employment was that of a tailor, and thus a considerable occupation of the right arm, the condition connected with the action of *Hypericum* is surely present.

Dr. Kroener in his excellent work on "Nervous Diseases" (*Zeitschrift des Berliner Ver. Hom. Ärzte*, Vol. XX, No. 1) in the appendix on "Nervous Diseases without any known anatomical changes (neuroses)," also speaks of traumatic neuroses. He agrees with the old school authorities (Edinger) "that the so-called traumatic neuroses must be considered as genuine hysterical affections or as neurasthenic merely, having the peculiarity that they may be referred back to a physical shock occurring at the time of a bodily accident." This will be indubitable in many cases. The prognosis is not made as unfavorable in the later publications as formerly (Nonne). With respect to the treatment, Kroener mentions only the suggestive treatment. In this point I cannot quite agree with Kroener. We know since the time of Charcot and Bernheim how often a suggestive treatment has acted favorably, but also how frequently it has failed. To ignore medical therapy beside the suggestive is, according to my view, unhomœopathic. Suggestive therapy presents according to our conception an agent which cures only in certain cases, while in other circumstances another healing factor, the Faradic current, or Hydrotherapy, or

a remedy selected according to similars, etc., will have to be used. Psychical, electric, hydropathic and medicinal therapy represent to us merely different forms of energy, each one of which has its exactly delineated sphere of action. This view I consider very important for reasons of principle.

If in our therapy we maintain the view that traumatic neuroses as forms of hysteria are only to be treated with suggestive treatment at most, then we come to a dead halt in our treatment. After diagnosing a case as hysteria in the usual sense of the word, we generally underscore the matter heavily and generally make no more earnest effort at treating it; that, however, is an injustice to our patients and to our Science.

When we consider that psychical, or suggestive therapy is only one of many forms of energy, which may act on the bodily organism, then the attempt to set aside by the acknowledgement of only one all the others, and to put the action of all the others to the account of this one, is most absurd. The men of the old school who are so ready to use the routine word suggestion, never consider that by admitting a psychical factor they remove themselves far more from the material basis than when they admit the cure by medicines in the various degrees of attenuation, in which at the same time the specific relation of the individual medicine to the symptoms of disease as described is proved by hundredfold experience.

In the three cases reported by myself, the explanation of the cures by suggestion would, according to my view be very forced. But whoever is of another view will have to surmount various difficulties. These cases involved men who by mischance had been thrown out of their chance of gaining a livelihood, and only desired to be able to return to their work which sustained them. There was little to be seen of neurasthenic accompaniments (desiderative ideas) or of a suggestive disposition. A second difficulty to be solved lies in the fact that the patients in question had passed through the hands of various physicians and specialists, who more or less made use of suggestion, and only with me as the last, who for easily guessed reasons kept a possibility of suggestion at a distance with care, such an effect should have taken place?

It would also be very difficult to ignore in a critical judgment the traditional and ever repeatedly confirmed relations of *Hypericum* to the neuroses.—*Homœopathic Recorder*, November 15, 1905.

Gleanings from Contemporary Literature.

OLD AGE.

By ELIE METCHNIKOFF, Subdirector of the Pasteur Institute.

THE problem of old age is one of the most complicated and difficult found in the biological field. As it is far from being solved, it will be impossible for me to present to you a complete study with results sufficiently precise to be practically applied. On the other hand, the course of procedure which we pursue in studying this question has already been made public, and consequently contains nothing especially new.

In considering this question of old age we are beset on every side with difficulties. At what period of our life does this ultimate stadium begin; at what time ought a man to say that, having entered upon this stage of his existence he dare no longer conduct himself as an able-bodied individual? It was but a few months ago that the students of the faculty of medicine in Paris loudly and noisily protested against the decision of the Senate that had suspended the law prescribing a limit of age for the professors. "We do not want old dotards," declared these young men. It is not rare to see old scientists of very great merit remain in their chairs up to an age when they are no longer capable of assimilating scientific progress, of judging correctly concerning new advances. Their auditors readily see that they are no longer abreast with their co-workers; the old professors alone can not perceive this. As regards myself, if I had remained in my native country I would necessarily have been retired five years ago as having accomplished my thirtyfive years of service.

It has for a long time been noticed that the longer one lives, the longer one desires to live. Charles Renouvier, a French philosopher, recently deceased, gave new proof of this rule. When 88 years old and feeling himself to be dying, he jotted down his impressions during his last days. "This is what he wrote four days before his death:

"I have no illusions regarding my condition. I know that I am soon to die, in a week or perhaps two, and yet I have so many things to say about our doctrine. At my age one has no right to hope. One's days, or perhaps one's hours are numbered. I must be resigned. . . . I can not die without regret. I regret that I can in no way foresee what will become of my ideas. Besides I am going before I have said my last word. One always has to leave before terminating one's task. This is one of the saddest of the sadnesses of life. . . . This is not all. When

one is old, very old, habituated to life, it is very difficult to die. I readily believe that young people accept the idea of death more easily than the old. When one is beyond 80 years he becomes cowardly and does not wish to die, and when one knows beyond question that death is near a feeling of melancholy pervades the soul. . . . I have studied the question in all its aspects. I know that I am going to die, but I do not succeed in convincing myself that I am going to die. It is not the philosopher in me that protests. The philosopher in me does not believe in death, it is the old man, the old man who has not the courage to face the inevitable. However, one must be resigned."

The aspect of old age too well known for it to be necessary to describe it in detail. The skin of the face is dry, wrinkled, usually pale. The hair is white, the body more or less bent, the walk slow and difficult, the memory defective. Such are the most significant traits of the aged. It is often thought that baldness is characteristic of old age, but this opinion is erroneous, for the head begins to become bald at a comparatively early period. At an advanced age baldness follows its course, but whoever has not begun to lose his hair when young will not become bald during old age.

Stature decreases with age. According to numerous measurements men lose, between 50 and 85 years, more than 3 centimeters (3.166), women still more (4.3 centimeters). Sometimes this loss may reach 6 or seven 7 centimeters.

Weight also diminishes during old age. According to Quetelet, the maximum weight of men is attained at 40 years of age, of women at 50. From 60 years onward weight diminishes, and at 80 years this loss amounts, on the average, to 6 kilogrammes.

The diminution in the height and weight of the body indicates a general atrophy of the organism in old age. Not only do the soft parts, such as the muscles and the viscera, become lighter, but even the skeleton loses weight in the old because of the diminution of mineral matters. This dicalcification during old age, extending to all parts of the skeleton, causes a brittleness of the bones of the aged, which often leads to fatal results. One of the greatest representatives of medical science during the nineteenth century, Virchow, at the age of 82 years, descending from a tramway, made a false step and broke the neck of his femur. In spite of all the attention that could be given him he died of the general exhaustion of forces after remaining several months in bed. Princess Mathilde fell in her chamber. This fall, which would have had no bad result in a young person, caused in this woman, 83 years old, a fracture of the neck of the femur. As in the case of Virchow a prolonged confinement to bed led to general malnutrition which terminated in death.

This part of the skeleton, the neck of the femur, becomes particularly brittle in the old because of osseous atrophy.

The muscles are also much subject to atrophy during old age. They lose in volume, the muscular tissue becomes paler, the fat between the muscular fasciculi diminishes in quantity and sometimes almost completely disappears. Movements also become slower and muscular force diminishes. Measurements of the force of the hand and of the trunk, made by means of dynamometers, show a progressive diminution in the old. This enfeeblement is more pronounced in men than in women.

The volume and the weight of the viscera also diminish, although in a different ratio for different organs. In order to explain the general atrophy of the body in old age an attempt has been made to ascertain the intimate structure of the organs and tissues of the aged. The visible manifestations of our organs represent the total of the functions of the microscopic elements that enter into their constitution. In order to understand the formation of the calcareous deposits upon which Paris is situated, and by aid of which its houses are constructed, it is necessary to consider the properties of the mollusks that have formed the shells which have accumulated and become cemented together to produce the stones. In the same way, in order to judge of the senile alterations of our body, it is indispensable that we should study the changes that occur in the cells that compose it.

A great number of these elements are continually being lost. From the surface of our epidermis are detached minute scales composed of a quantity of flat desiccated cells that have become incapable of protecting our skin. The secretions of the mucous membranes daily carry away great numbers of the cells that make up those membranes. There is, therefore, a considerable wear of the microscopic elements of our body which must be reconstituted in order to maintain its equilibrium.

Under these conditions it was quite natural to ask whether the reparation of our cells is as well effected in the old as in those of adult life. This question arose all the more naturally because there are known examples of very low organisms that multiply by division, and which, after a considerable number of generations, finally fall into a state of exhaustion in which reproduction becomes gradually slower and more difficult, and may even cease altogether. This state of debility, which has been compared to senile atrophy, yields to certain influences, such as the conjugation of two exhausted individuals, or even to improved nourishment.

But since among inferior organisms which resemble so much the cellular elements of our body, reproduction becomes exhausted at the end of a certain period, we are led to suppose that the same law may

also apply to the senile atrophy of our own organism. Therefore, numerous scientists affirm that old age finally results because it is impossible for an organism to repair the cellular losses by the formation of a sufficient number of new elements—that is to say, because of the exhaustion of the reproductive faculty.

One of the scientists who have more especially concerned themselves with general questions, Weismann, expresses himself on this subject in a very categorical manner. According to him, the senile degeneration that ends in death does not depend on the wearing away of the cells of our organism but, rather upon the fact that cellular proliferation, being limited, becomes insufficient to repair that loss. As old age appears in different species and different individuals at various ages, Weismann concludes that the number of generations that a cell is capable of producing differs in different cases. It is, however, impossible for him to explain why, in one example, cellular multiplication may stop at a certain figure, while in another it may go much further.

This theory appears so plausible that no attempt has been made to support it by precise facts. We even see, in the most recent attempt at a theory of old age, by Dr. Biler, the thesis of the exhaustion of the reproductive power of the cells accepted and developed without sufficient discussion. It can not be denied that it is during embryonic life that cells are produced with the greatest activity. Later on this proliferation becomes slower but it nevertheless continues to occur throughout the course of life. Biler attributes the difficulty with which wounds heal in the aged, precisely to the insufficiency of cellular production. He also thinks that the reproduction of the cells of the epidermis which are to replace the desiccated parts of the skin diminishes notably during old age. According to this author it is theoretically easy to predict the moment when cellular multiplication in the epidermis must completely cease; as the desiccation and desquamation of the superficial parts continues without cessation it becomes evident that it must finally result in the total disappearance of the epidermis. The same rule is applicable, according to Biler, to the genital glands, the muscles, and all sorts of other organs.

These theoretical considerations do not, however, agree with well-known facts which speak but little in favour of a general diminution of cellular proliferation in old age. The hairs and the nails, which are excrescences of the epidermis, keep on growing throughout the entire life, thanks to the reproduction of the cells which constitute them. There is no arrest at all in the development of these parts even in the most advanced age. Far from that, we know that the hair that covers certain portions of the body increases in quantity and length in the old. In certain inferior

races like the Mongols, the mustaches and the beard do not grow abundantly until advanced life, while young people have but small mustaches and very little or no beard. In women of the white race the same phenomenon occurs. The delicate and almost imperceptible down that covers the upper lip, the chin, and the cheeks of young women is transformed into veritable hair which forms the mustaches, beard, and whiskers of old women. Dr. Pohl, a specialist in everything that concerns the hair, measured the rapidity of growth of hair under different circumstances. He found that in an old man of 61 years the hairs of the temples grew 11 millimeters in a month. But these hairs, in the same regions, in boys of from 11 to 15 years grew in the same time 11.8 millimeters, which represents almost the same figure.

There is therefore in the three subjects studied by Dr. Pohl no considerable diminution in the cellular growth in the old, in spite of the great difference in age. It is true that this observer showed that the hair of a young man between 21 and 24 grew at a rate of 15 millimeters per month, while in the same individual at the age of 61 years the rate lowered to 11 millimeters; but this slowing down of the growth of the hair was only apparent. In fact, the first figures related to hair from different regions of the hairy scalp, while the second related only to the hair of the temples. Now it is well established by Dr. Pohl himself that in the latter place the hair grows more slowly than elsewhere. On the other hand, in boys from 11 to 15 years old studied by this observer, the rapidity of development of the hair was always shown to be less than 15 millimeters. It was often even below the 11 millimeters found in the man 61 years old.

In spite of the abundant growth of the hair in old age, these parts undergo a senile degeneration: that is to say, the loss of pigment. This blanching is doubtless an atrophic phenomenon which is not due to an arrest of cellular multiplication, but to the disappearance of colored granulations.

Let us now cast a glance at some other manifestations of old age. The debility of muscular movements is connected with modifications in the structure of the muscular fibers which also do not indicate an absence of reproductive power. The fascicles which form the muscles undergo a veritable atrophy, for they become much thinner than in their normal state. Besides there is deposited in their interior quantity of fatty granulations, and, what specially merits attention, the nuclei of the muscular fibers show a very abundant multiplication, forming masses arranged in long series. Donaud, who has published a thesis upon the modifications of muscles in old age, remarks in this connection that the endogenous multiplication of muscular nuclei in old age is very active and that it takes place in exactly the same way as in the embryo. In

this example of senile atrophy we are far then from finding a cessation of reproductive power in the cells

As regards the brittleness of the bones in old people, this is also caused by cellular multiplication which produces large cells capable of destroying the osseous substance and making the bones spongy.

Detailed microscopic observation of senile organs has shown in a direct manner the existence of cellular multiplication. Thus Sackaroff observed it in the lymphatic ganglia of old persons, and among others in a man 102 years old. The few data just cited suffice to enable us to reject the theory that old age is caused by the exhaustion of the reproductive faculty of the cells. We must seek for another more conformable with the well-established facts of senile degenerescence. Without entering upon new details, let us try to comprehensively survey those we have already given. What common features connect the blanching of the hair with the atrophy of muscular fibers and the brittleness of the bones of the aged?

The loss of colored granulations in the hair is due to the setting free of a quantity of wandering cells which seize the pigment and transport it elsewhere, leaving the hair decolorized. In the atrophy of the muscles there is a multiplication of the nuclei and of the substance that surrounds them. As in the hair there are cells which devour the pigment, so in the muscles there are the multiplied elements we have just cited which devour the contractile substance. In senile bone, the osseous substance is destroyed by the giant cells mentioned above. In the cells of the senile organs just studied the general and essential phenomena consist, then, in the destruction of parts useful to the organism by wandering cells that present some traits in common with each other. They are voracious cells belonging to the category of elements designated under the generic name of macrophages. Certain macrophages remove the pigment of the hair, certain others destroy the osseous lamellæ, others still devour the contractile substance of muscles.

It is easy to prove that this activity or rather superactivity of the macrophages is observed in the most divers organs of the aged. It is found in the brain, where the cells are in the act of devouring the most noble elements of our organism. In the kidneys and the liver of old persons there are found collections of macrophages that cause the secretory cells of those organs to disappear, thus occasioning phenomena of atrophy of very great importance.

After having destroyed the noble elements of the aging organism, such as the nervous, renal, and hepatic cells, the macrophages become fixed in place and are transformed into connective tissue without ever being able to supply the place of the precious elements that have disappeared. It is in this way that there is set up in the aged that main factor of our

premature decay, sclerosis of the organs. A study of the special phenomena of old age shows, then, that they arise from a cellular activity that brings about the destruction of the noble elements and the superiority of the macrophages. The latter, which in a normal state act as protectors of the organism against the invasion of microbes, at last themselves invade the most useful parts. There is produced in our body by the advance of age something analogous to what occurs in the old age of certain peoples when the army, intended to protect the state against exterior enemies, turns against the citizens of its own country.

In this invasion of the senile organs by the macrophages there sometimes occurs a veritable struggle between these voracious cells and our noble elements. Weakened by diverse causes these elements show signs of degeneration in the form of deposits of fat or of pigment. In these conditions of inferiority the cells of the brain, of the kidney, or of the liver more readily become a prey to the macrophages, whence results the loss of intelligence and the disorders of digestion and of the excretories which are so common among old people.

But in other cases there can not be any serious question of a struggle between two categories of living elements. When the macrophages devour the pigment of the hair, or, indeed, destroy the osseous substance, there occurs rather an aggression of the macrophages upon inert parts that are incapable of defending themselves.

We have tried to show that the theory of the mechanism of old age which attributes a preponderating part to the attack on the valuable elements made by the macrophages is not a mere plausible speculation, but rests on numerous and exact facts. It would be interesting to penetrate more deeply into the causes of this drama which is being played within our own organism and which occasions such serious evils. Unfortunately science is not sufficiently informed to satisfy an investigating spirit otherwise than by the aid of hypotheses.

It has often been said that old age is a kind of disease. In fact the great resemblance between these states is incontestable. Among the maladies to which an organism is subject there is a considerable group that manifest themselves in the form of atrophies. Sometimes it is an atrophy of muscles which occasions a considerable weakness in the voluntary movements and in which we find proliferation of the nuclei, as in the muscles of old people. Atrophic maladies of the kidneys and of the liver are numerous, and in these we find a disappearance of the glandular tissue and its replacement by connective tissues the same as we find in old age. Atrophy of the osseous substance produced by giant cells often occurs in the course of certain maladies. In all these examples the more profoundly we study the lesions the more we become convinced of their similarity to those which take place during old age.

Although the cause of many of the atrophic maladies is still unknown there are nevertheless some whose origin is sufficiently established. Thus, among the atrophies of the muscles, we may cite that which is induced

by the parasitism of trichine. The penetration of these minute worms into the muscular fascicles produces lesions that occasion multiplication of muscular nuclei and a destruction of the contractile substance.

The analogy with the atrophy of muscles is undeniable. The atrophic maladies of glandular apparatus such as the liver and the kidneys, are often occasioned by poisoning by alcohol, lead, and other chemical substances or they may be occasioned by some infectious microbic malady. Again, it is this latter cause which often leads to the destruction of the osseous substance. In certain infectious maladies like tuberculosis and leprosy the bacilli penetrate into the bones and succeed in forming there infectious foci. These bacilli are, however, incapable by themselves of dissolving and destroying the osseous substance but the products that escape from them into the bones exercise an irritating action upon the giant cells which set to work to eat away the osseous lamellæ impregnated with lime. The tuberculous or leprous giant plays, therefore, only an intermediate part in the atrophy of the skeleton, which is immediately caused, as in old age, by the work of the giant cells designated under the name of osteoclasts.

Since the mechanism of senile atrophy is entirely similar to that of atrophies of microbic or toxic origin, it may be asked whether in old age there may not be some intervention of microbes or their poisons. May not this abnormal excitation of the macrophages that leads them to destroy all sorts of noble cells of the organism and to even attack the pigment of the hair and the osseous substance be also due to the action of certain poisons elaborated within the body? The principal source of these poisons is clearly indicated: our digestive tube contains an enormous quantity of microbes, and many of them are capable of secreting substances that are more or less toxic. Our intestinal flora resembles the flora of forests in which there are found by the side of boleti and other edible mushrooms a great number of poisonous ones. It is true that our intestine is, up to a certain point, protected against the invasion of the microbes contained in it and even against their poisonous products. We may with impunity feed animals that are quite easily affected by certain infectious maladies upon the microbes that produce those maladies. Thus guinea pigs may swallow without harm great quantities of the bacilli that produce anthrax, but if there is the least lesion in the intestinal wall the mortal malady will declare itself. The presence of infectious microbes in the digestive tube may therefore have sad results.

The intestine is likewise protected against the absorption of certain poisons. We may, for example, cause guinea pigs to swallow, without effect, many cubic centimeters of tetanic poison, a hundredth part of a drop of which injected under the skin will inevitably bring on a mortal tetanus. The intestinal wall does not, therefore, absorb the tetanic poison. There are, however, other poisons that do not follow this rule and which are easily absorbed in the intestine. Cases of poisoning by poisonous mushrooms taken for edible ones are quite frequent. Neither is there

any lack of microbic poisons that traverse the intestinal wall. We see arise from time to time veritable epidemics that are serious and even fatal as a consequence of the consumption of fish, meat, or preserves spoiled by microbes. In these cases there is usually an entrance into the intestines of the botulynic bacillus, which secretes a very violent poison readily absorbed by the organism in the same way as is the poison from noxious mushrooms. The symptoms of Asiatic cholera are also produced by a toxine elaborated in the digestive tube and absorbed by the intestinal wall.—*Scientific American, Supplement, Nov. 4, 1905.*

(To be Continued).

Acknowledgments.

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SANITATION OF CALCUTTA.

I.

According to Captain Hamilton, it was Job Charnock who selected the site that has developed into the Capital of the British Empire in the East. The attraction the place possessed was "a large shady tree," although, in other respects, as Captain Hamilton adds, "he could not have chosen a more unhealthy place on all the river." In Pinkerton's Voyages and Travels, there is an account of the city given by Captain Alexander Hamilton who visited India between the years 1688 and 1733. The Captain says :

"One year I was there, and there were reckoned in August about twelve hundred English, some military, some servants of the Company, some private merchants residing in the town, and some seamen belonging to the shipping lying at the town, and before the beginning of January there were four hundred and sixty burials registered in the clerk's book of Mortality."

Mr. Ranauld Martin in the Topography of Calcutta added the following remarks :

"In more recent times it was the custom of the European inhabitants of Calcutta to meet on the 15th of December of each year to congratulate each other on their escape from the period so emphatically marked by Captain Hamilton; but though this is no longer considered necessary on account of the insalubrity of the place, still I think it will not be difficult to shew that we are far indeed

from having effected for our 'emporium' all that night, or ought to have been done for it."

Again,

' In Calcutta we have no longer such terrible epidemics as those of 1757 with its cold stage of 12 hours, and that of 1762 which carried off 50,000 Blacks and 800 Europeans Stavorinus speaking of the sort of sickness and fever which prevailed among the inhabitants of Calcutta during his visits (1768-71) says that it generally sweeps away those who are attacked by it in the space of three days. . . . Of Major Kilpatrick's force of 240 men stationed at Fulta, not 30 of the whole detachment, according to Mr Ives, were left alive between August and December, 1756, by one of these epidemics. The same authority adds that the number of men buried in Bengal amounted to more than half of all who died in the several hospitals in India during the whole term of General Watson's command, a period of three years and one month. . . . Dr Bogue, who also served in Watson's Fleet, says that out of three ships of the line and a twenty gun ship, and those not fully manned, they lost in six months upwards of 200 men; most of whom died of these fevers, so much worse was the climate of Bengal in those times than that of any other part in our Eastern possessions."

The reputation of the town as regards mortality was so well that it was called by the name of Golgotha or the City of Skulls.

The Rev. James Long writes in his Hand Book of Bengal Missions that the town was reclaimed from swamps. The curious fact is the selection of the site of Calcutta, the future capital of India, in a swampy land by Job Charnock. It was so with St. Petersburg.

According to a writer in the Calcutta Review "Job Charnock landed at Sutanati (now Hatkhola) on the 20th December 1696." It was Christmas season and he spent his Christmas there. Forced to leave Hughli he came to Sutanati, which with Gobindapur and Kalikata, "formed the swampy fever-stricken nucleus from which the present splendid city of Calcutta has, as if magic, spread." Calcutta was then a city of huts—"the factors and soldiers lived in huts until they could provide proper habitations." In 1693, Sir John Goldsborough, the Com-

missary General and Chief Governor of the Company's Settlements says: "No body knew where or how to build, but every one built, traggingly where and how they pleased and there dug holes and tanks that will cost the Company money to fill up again."

Notwithstanding these disadvantages, the site was selected, the city founded and it is now a city of palaces. There is no monument to Charnock in this city, except the mausoleum, said to be the oldest piece of masonry in Calcutta, in St. John's Church yard, in which he lies buried. The Municipal Commissioners have named a part of an old street, Charnock's Place. No man of war, but of peace, he thoroughly identified himself with the place of his choice, and married a Hindu widow, whom he had rescued from the pyre of her dead husband. For then were the days when Hindu widows burnt themselves alive with their departed lords. A reference to this incident is to be found, as said by the same writer, whom we have quoted from the Calcutta Review but which is not recorded in Holmes and Co.'s "Bengal Obituary," in another epitaph in the same Church yard, on the tomb of Joseph Townsend:

"Shoulder to shoulder, Joe my boy,—in to the crowd like a
wedge!

Out with your hangers, mess-mates, but do not strike with
the edge!"

Cries Charnock—"Scatter the faggots! Double that, Bramhan
in two!"

The tall pale widow is mine, Joe—the little brown girl's for you."

Young Joe (you're nearing sixty), why is your hide so dark?

Katie was fair with blue eyes—who blackened yours?—why,
hark!

The morning gun!—Hb! steady!—The arquebuse to me.

I've sounded the Dutch High Admiral's heart, as my lead doth
sound the sea.

Sounding, sounding, the Ganges—floating down with the tide.

Moor me close by Charnock, next to my nut brown bride,

My blessing to Kate at Fanlight—Holwell, my thanks to you,

Steady!—We steer for Heaven through scud-drifts gold and blue.

So far with Charnock. We come to the Minute of the Marquis of Wellesley, Governor-General of India, dated the 16th June 1803. It is as follows :—

The increasing extent and population of Calcutta, the Capital of the British Empire in India, and the seat of the supreme authority require the serious attention of government. It is now become absolutely necessary to provide permanent means of promoting the health, the comfort, and the convenience of the numerous inhabitants of the great Town.

The construction of the Public Drains and Water-courses of the Town is extremely defective. The Drains and Water-courses in their present state neither answer the purpose of cleansing the Town, nor of discharging the annual inundations occasioned by the rise of the River, or by the excessive fall of rain during the South West monsoon. During the last week, a great part of this Town has remained under water, and the Drains have been so offensive, that unless early measures be adopted for the purpose of improving their construction, the health of the inhabitants of Calcutta, both European and Native must be seriously affected.

The defects of the climate of Calcutta during the latter part of the rainy seasons may indeed be ascribed in a great measure to the state of the Drains and Water-courses, and to the stagnant water remaining in the Town and its vicinity.

The health of the Town would certainly be considerably improved by an improvement of the mode of draining and cleansing the Streets, Roads, and Esplanade. An opinion is generally entertained, that an original error has been committed in Draining the Town towards the River Hooghly. And it is believed, that the level of the country inclines towards the Salt-water Lake, and, consequently, that the principal channels of the Public Drains and Water-courses ought to be conducted in that direction.

Experience has manifested, that during the rainy season, when the river has attained its utmost height, the present drains become useless; at that season the rain continues to stagnate for many weeks, in every part of the Town; and the result necessarily endangers the lives of all Europeans residing in the Town, and greatly affects our Native subjects.

Other points connected with the preservation of the health of the inhabitants of this Capital, appear also to require immediate notice. No general regulations at present exist, with respect to the situation of the public markets, or of the places appropriated to the slaughter of cattle, the exposure of meat, or the burial of the dead. Places destined to these purposes must necessarily increase in number with the increasing population of Calcutta. They must be nuisances, wherever they may be situated, and it becomes an important branch of the Police, to confine all such nuisances to the situations wherein they may prove least injurious and least offensive. It must, however, have been generally remarked, that places of burial have been established in situations wherein they must prove both injurious and offensive; and Bazars, Slaughter houses, and Markets of meat now exist in the most frequented parts of the Town.

In those quarters of the Town, occupied principally by the native inhabitants, the houses have been built without order or regularity, and the streets and lanes have been formed without attention to the health, convenience, or safety of the inhabitants. The frequency of Fires, by which many valuable lives have been annually lost, and property to a great extent has been destroyed, must be chiefly ascribed to this cause.

It is a primary duty of Government to provide for the health, safety and convenience of the inhabitants of this great Town, by establishing a comprehensive system for the improvement of the Roads, Streets, Public Drains, and Water-courses, and by fixing permanent rules for the construction and distribution of the Houses and Public Edifices, and for the regulation of nuisances of every description.

The appearance and beauty of the Town are inseparably connected with the health, safety, and convenience of the inhabitants; and every improvement, which shall introduce a greater degree of order, symmetry, and magnificence, in the Streets, Roads, Ghauts and Wharfs, Public edifices and private habitations will tend to ameliorate the climate, and to promote and secure every object of a just and salutary system of Police.

These observations are entirely compatible with a due sense of the activity, diligence, and ability of the present Magistrates of

Calcutta, by whose exertions, considerable improvements have been made in the general Police of the Town. The Governor-General in Council has frequently expressed his approbation of the conduct and services of the present Magistrates of Calcutta, who have zealously and judiciously employed every effort, within their power, to mitigate the effects of the evils described in this Minute. But the Magistrates of Calcutta must be sensible, that the establishment of a more comprehensive system of permanent regulations is indispensably necessary for the purpose of securing to the Town the full benefit of the laudable services of the officers, to whom the administration of the Police has been entrusted by Government.

With these views, the Governor General proposes that the under-mentioned gentlemen be appointed a Committee to consider and report to His Excellency in Council the means of improving the Town of Calcutta.

(Here follows a list of the Committee).

The Governor General further proposes, that the following special instructions be issued to the Committee.

1st.—To take the level of the Town of Calcutta and the adjacent country, and ascertain and report what alteration may be necessary in the direction of the Public Drains and Water courses.

2ndly.—To examine the relative level of the river during the rainy season, compared with the level of the Drains and Water courses.

3rdly.—To suggest what description of Drains or Water courses may be best calculated, (1) to prevent the stagnation of rain water in Calcutta and the vicinity thereof, and (2) to cleanse the Town.

4thly.—To consider and report what establishment may be necessary for cleansing the drains and water courses, and for keeping them in constant repair.

5thly.—To take into consideration the present state of all the places of interment in the vicinity of Calcutta, and to propose an arrangement for the future regulation of those places, in such manner as shall appear to be best calculated for the preservation of the health of the inhabitants of Calcutta and its vicinity.

6thly.—To examine the present state and condition of the Bazars and Markets for meat and of the Slaughter houses in Calcutta, and

to propose such rules and orders as shall appear to the Committee to be proper, for the regulation of those already established, for the removal of such as may have actually become nuisances, and for the establishment of New Markets or Slaughter houses hereafter.

7thly.—To enquire into all existing nuisances in the Town and vicinity of Calcutta, and to propose the means of removing them.

8thly.—To examine and report, for the consideration of Government, the situations best calculated for opening new Streets and Roads, leading from East to West, from the new Circular Road to Chowringhee and to the River, and from North to South, in a direction nearly parallel with the new Road.

9thly.—To suggest such other plans and regulations, as shall appear to the Committee, to be calculated to promote the health, convenience, and comfort of the inhabitants of Calcutta, and to improve the appearance of the Town and its vicinity.

10thly.—To form and submit to the Governor-General in Council, an estimate of the expense required to complete all such improvements, as may be proposed by the Committee.

The means of raising the necessary funds for the purpose of defraying the expense, which must attend the execution of the important improvements suggested in this Minute, will claim the early and deliberate consideration of Government. The Governor-General in Council entertains no doubt that those Funds may be raised without subjecting the Hon'ble Company to any considerable expense, and without imposing a heavy tax on the inhabitants of Calcutta; it will certainly be the duty of Government to contribute, in a just proportion, to any expense which may be requisite for the purpose of completing the improvements of the Town.

Fort William, June 16th, 1803. (Sd.) WELLESLEY.

The Committee appointed for consideration of the two recommendations on that behalf consisted of Major-General Fraser, Major-General Cameron, Mr. P. Speke, Mr. T. Graham, Mr. W. A. Brooke, Mr. J. Taylor, Mr. B. C. Birch, Colonel Pringle, Mr. Davis, Mr. G. Dowdeswell, Lieutenant Colonel Harcourt, Captain Shaw, Lieutenant Colonel Garstin, Mr. T. Dashwood, Mr. H. Tucker, Mr. W. Fairlie, Mr. A. Colvin, Mr. D. Ross, Mr. J. Alexander, Major R. Colebrooke, Captain

Wyatt, Captain Anbury, Captain Preston, Captain Blunt, Captain Sydenham, Mr. C. F. Martin, Mr. C. W. Blaquiere, Mr. E. Thornton, Mr. A. Macklew and R. Blechynden.

These gentlemen were informed of their appointment by the Chief Secretary, Mr. J. Lumsden, on the day in which the resolution was drafted. Captain James Blunt, of the Engineers was ordered to officiate as Secretary and Mr. Tiretta as clerk. This notification was issued from the Council Chamber, Fort William.

Before this another committee had been formed, but why they were superseded can not be traced. A third Committee was subsequently appointed:

“The Governor-General in Council is pleased to appoint the following gentlemen to be a Committee to consider and report on the means of improving the Town of Calcutta.—

Major General Cameron, P. Speke, Esq., T. Graham, Esq., J. Taylor, Esq., R. C. Buch. Esq., S. Davis, Esq., G. Dowdeswell, Esq., Captain James Armstrong, Major Shawe, Lt-Col Gaustin, Thomas Dashwood, Esq., Henry St. George Tucker, Esq., W. Fairlie, Esq., A. Colvin, Esq., James Alexander, Esq., Lt-Col. Colebrooke, Captain Thomas Anbury, Lt B Sydenham, C. F. Martyn, Esq., W. C. Blaquiere, Esq., E Thornton, Esq., Alexander Russel, Esq., John Shoolbred, Esq., the Rev. Mr Brown, the Rev. Mr Buchanan, Lt-Col. Mercer, R. P. Smith, Esq., H. T Colebrooke, Esq., Col. Green, M. G. Prendergast, Esq., and R. Blechynden. Esq.

Ordered, that the Committee be informed that the general objects to which their attention is to be directed will be notified to them forthwith, as well as their place where Meetings are to be held, and that his Excellency in Council in the meantime desires they will immediately obtain such information as can be procured with respect to the causes of the late destructive fires in Calcutta, and suggest, for the consideration and orders of Government, such measures as shall appear to them to be best calculated to guard the Town from the recurrence of this calamity at any future period.

Ordered that the Committee be also informed that Mr. Prendergast is appointed to officiate as their Secretary.—*Criminal. 2nd June 1804*

On 4th July 1804, a few gentlemen of this Committee submitted a brief report. In it they stated:

"That the houses be constructed in straight lines, or nearly as straight as may be practicable, leading from East to West, with streets or passages running North and South, at the distance of 150 or 200 feet from each other.

That tanks or wells, as shall appear most convenient on local examination, be dug in the different wards of the Town. That a fire engine be established in the principal wards, or at such other places as shall appear to be most convenient for affording assistance in cases of fire.

In consequence of the present singular and ill-judged construction of most of the houses and buildings of the Natives, they are extremely difficult of access at any time, and on the occasion of fires the narrow passages become destroyed either by the fall of some of the buildings, or by the populace themselves, so that individuals frequently find it impracticable to escape from the flames.

The question above stated of digging tanks and wells at convenient places in or near the different wards, is obviously calculated to facilitate and expedite the extinction of flames, particularly when aided by the Fire Engine, which we have also proposed should be established at convenient places. The earth which may be excavated from the tanks would likewise be of essential use in filling up the inequalities of the ground. The Natives would also, by these means, be furnished with pure and wholesome water.

In the progress of our enquiry, it has been suggested to us that it would be expedient to encourage the erection of houses with tiled instead of straw roofs, by a remission on the former, of the tax on the houses, or of the ground rent, or of both. We were sensible of the advantages which tiled roofs possess over straw choppers, and should be happy to suggest any means calculated to promote the most general use of the former, consistent with the pecuniary circumstances of the lower order of the Natives.

We do not, however, conceive that the end proposed could in any degree be attained by the remission of the Land Tax, or the Assessment on Houses. On a reference to the Collector of Calcutta, it appears that the aggregate amount of the Tax on the ground

occupied by all the tiled and straw houses throughout Calcutta, is only sicca Rupees 7,346-13-4 per annum.

Immediately connected with the improvements above mentioned, is a measure which appears to be highly desirable, and to which our attention has been directed by your Excellency in Council. We mean that of opening new streets with a view of facilitating the communication between the different parts of the Town, of affording a more free circulation of air in the populous quarters—and, finally, of improving draining of Calcutta.

We take the liberty to suggest that the proper offices be directed to take necessary measures, as soon as circumstances will admit, for purchasing, on account of Government, the ground requisite for opening the streets or passages through the different wards in that quarter of the Town, to which these remarks allude (in such cases as it shall appear to be necessary, to make purchases on that account) and likewise for obtaining the ground required for the tanks and wells proposed to be dug.

The quarters of the town lying to the South of Durruntollah having suffered more than others from the effects of the late fires, we do ourselves the honour of transmitting to your Excellency in Council a plan of that part of the city. The houses there have in a great measure been destroyed, which circumstance induces us to recommend that the projected improvements be in the first instance, carried into effect in that quarter.

These recommendations relate to improvements to be effected for extinguishing fires in the town, but they also have other purposes. The report was signed by W. N. Cameron, C. Green, H. Colebrooke, G. Dowdeswell, R. H. Colebrooke, Thos. Anbury, Thos. Preston, A. Russel, C. F. Martyn, E. Thornton, W. C. Blaquiere, R. Blechynden and M. G. Prendergast.

The special Committee met twice at Major-General Cameron's quarters in Fort William, on the 11th and 25th June respectively. This was attended by Major-General Cameron, the Rev. Mr. Brown, Captain Anbury, W. C. Blaquiere, J. J. B. Proby and R. Blechynden.

On July 24th 1804, the Chief Secretary, Mr. John Lumaden, wrote a letter to Major-General Cameron and the Committee.

It went over the arguments and came to the following conclusion :—

1. It is desirable to open roads on the South of the Durrum-tollah street.

2. The Governor-General in Council wished the Committee to enquire the best means of draining the town.

3. The creation of small avenues and the digging of tanks though necessary yet the considerable expenditure is in their way. But something can be done for the construction of roads, digging of tanks, and sinking of wells in convenient places. The necessary ground is to be purchased by the Government.

4. Fire engines with small establishment shall be maintained in each ward.

5. Houses thatched with straw form more convenient accommodation than houses with tiled roofs, the option is left to the inhabitants to construct them. The Magistrates of Calcutta can adopt any arrangement for the extinction of accidental fires.

On the 30th July 1904, the Committee consisting of W. N. Cameron, C. Buchanan, C. Green, J. Taylor, R. H. Colebrooke, J. Shoolbred, D. Brown, G. Dowdeswell, T. Preston, T. Graham Marrieke Shawe, T. Aubury, W. C. Blaquiere, E. Thornton, Alexander Russell, W. Fairlie, K. Blechynden, J. J. B. Proby, T. Colebrooke, J. Alexander, H. St. G. Tucker, T. Dashwood, S. Davis, C. F. Martyn, and M. G. Prendergast, submitted a report which contained the recommendations, forwarded to them by the Special Committee, as well as of their own.

1. The assessment to be raised on houses which may carry a rent of one rupee per mensem, from 5 to 7½ per cent.

2. The surplus revenue of Tolly's Nullah be applied for town improvement.

3. The fees collected by the Magistrates be appointed for the same purpose.

4. The surplus revenue of markets be applied.

5. The surplus receipts of the Court of Requests be given.

6. An annual lottery be established for the same purpose under proper management and control.

On the above recommendations of the Sub-Committee the Committee added :—

1. The increase of assessment is justifiable by the Act of Parliament passed in the 32nd year of His Majesty's reign (King William the Fourth). But the expenditure is restricted to the cleansing, watching and repairing of streets.

2. For the lottery they said that " We are aware of the objections which are usually urged against raising supplies in that way, but whatever force those objections may have in other countries, it does not appear to us that any ill consequences are likely to result from the establishment of a Lottery in India. The habits and confined means of the lower orders of the Natives, effectually exclude them from any participation in a Lottery conducted on a large scale. Even in England the evil does not arise so much from the purchase of tickets as from the Offices which are opened for ensuring them which would of course be entirely prevented in this country.

At all events, if Lotteries be necessarily injurious to the morals of people, the evil at present experienced in Bengal is of as great a degree as it could be if the plan now proposed by us were to be adopted as Lottery tickets are regularly sent round for sale from Madras."

3. As for other supplies, they can be done without much inconvenience to the Government.

4. The Committee could have proposed addition to taxes, for the improvements in contemplation but they are unable to do them for restrictions existing by law on raising taxes within the town.

5. For the improvement of environs of Calcutta they received an additional report, which, pointed out the necessity of constructing new roads, widening old roads and maintaining ditches in proper order in Garden Reach, Allypore, Callyghaut, Russapugla, Baloo-gunge, Boitacaunah, Bally Ghaut, etc.

It will be seen from these reports that advantage was taken of the fire to open new roads in the town south of Dhurumtolla. The great plague of London in 1665 is said to have been checked by the memorable fire of 1666 and the conflagration led to the sanitary improvements of the city. It was so with Chicago.

The two offices for the improvement of the town were the Lottery Committee's and the Chief Magistrate's. They evolved order out of chaos and greatly improved the sanitation. The Lottery Committee were foremost in the construction of new roads and tanks and the improvement of bustees. The Committee started with the object as given in the resolution passed by them on the 18th December 1817.

1stly.—That the health of the inhabitants be considered as the first object to which the attention of the Committee ought to be directed, and that with this view their funds ought to be applied in the first place to the filling up of altogether or deepening and cleansing miry Tanks and Jheels, several of which exist at present in the most populous parts of the Town. In the second place, to preventing the accumulation of filth, by means of new Drains, common Sewers and Kennels. And in the third place, to promote ventilation, as far as can be effected, by cutting down high and spreading trees, and by increasing as much as possible the number and size of Streets or Roads running in a straight line from South to North.

2ndly.—That next to the health of the inhabitants, the Committee should direct their attention in their improvements to the personal safety of passengers in the Streets with a view to which object it would be highly desirable to widen the narrow parts of the most frequented Streets, where more commodious Roads in a parallel direction can not be opened, and particularly to round off sharp angles. The safety of foot passengers should also be considered, and Foot paths formed betwixt the Wall and Kennel, wherever the width of the old Streets will admit of this, and in all the new Roads that may be opened by the Committee.

3rdly.—That convenience and ornament be also considered desirable. But that none of the funds of the Committee be appropriated to purposes where these are the only objects proposed, until all the foregoing objects have been accomplished, as far as may be in the power of the Committee.

4thly.—That a preference be given to such plans of improvement laid before the Committee as combine the greatest number of the important objects, at the smallest expense.

Mr. H. J. Shakespear recorded a minute on the 13th January 1820 and wrote to Mr. John Trotter, Secretary to the Lottery Committee, recommending the construction of Roads in the portion of the town north of Buriabazar, between Chitpore and Circular Roads, containing a dense population. In another memorandum dated 7th February 1820, he proposed the appropriation of a considerable sum of money without which substantial improvements would be hopeless. But with all the existing evils of the time he had "reason to believe that the Town was never kept more free from accumulation of dirt or the drains less uncleanly than they have been during the last six months." He also submitted a statement of the number of Hindus taken to Kashee Mitter's Ghat for cremation. Here it is.—

	Years—1815.	1816.	1817.	1818.	1819.
Fever	615	442	493	668	839
Dysentery. Diarrhoea, etc.	1081	852	1269	951	1080
Coughs and Pulmonary					
Complaints	223	153	147	149	140
Various diseases	465	235	326	227	142
Cholera morbus	182	141	1323	2776	889
TOTAL	2596	1823	3558	4771	3090

Bābu Rupanarain Ghosaul, Sheristadar of the Lottery Committee, in his deposition before the Fever Hospital Committee, stated that the Lottery Committee were always gainers by sale of lands after improvements. The dearest portion of their acquisition was in the Strand and Clive Road and the cheapest in the Loudon Street and Short's Bazar. In Amherst and Cornwallis Streets they made also many improvements. Chitpore Road, Wellington Square, places near the new mint also shewed progress as other portions. During the course of their acquisition the Lottery Committee were involved in a long and heavy litigation with Gopee Mohun Deb, the father of Raja Sir Radha Kanta Deb, who, in April 1824, proceeded against the Committee for forcibly and against the will of the complainant, breaking and entering upon divers lands partly in the possession of the complainant and partly in possession of tenants, and commenc-

ing to make public roads, and blocking up ghauts and destroying them. He, therefore, prayed that the defendants might be restrained by injunction from making the roads and from committing trespasses, and that a decree be given against the Committee for the damages done. The Hon'ble Sir Edward Ryan, Chief Justice, Mr. Justice Grant and Mr. Justice Seton delivered judgment on the 5th June, 1840 by dismissing the case. Though the Committee triumphed, the triumph may be said to have exhausted their efforts and resources. At any rate, the body had ceased to be useful. For, in a letter addressed to the owners and occupiers of premises in Calcutta by Mr. D. M. Farlan, dated the 1st December 1833, we find that "The Lottery Funds may now be said to be extinct for all purposes of improvement in Calcutta."

On the 2nd March 1837, Mr. Joseph de Hezeta, Secretary to the Lottery Committee, gave a statement for the twelve years from 1825 to 1836, from which we find that the profits were Rs. 12,72,193 and the expenses Rs. 2,43,709. Perhaps the balance was disbursed for the town improvement. On December 15, 1836 the inhabitants of Bowdakhana petitioned C. Trower, C. R. Barwell, J. Master, D. Macfarlan and G. J. Gordon Esq., Members of the Lottery Committee, for a public tank in that quarter. The application was refused on the ground that they had no power to entertain it.

It must be said that the Lottery committee by opening the large roads and excavating the tanks in Calcutta mostly contributed to its salubrity. Since then only four roads worth the name have been constructed. They are Canning Street, Grey Street, Beadon Street and Harrison Road. Many small outlets have also been made. The parallel ways in the southern part of the town are the most prominent features of the improvement. Their construction was possible for the great fire which occurred before the advent of the Lottery Committee.

EDITOR'S NOTES.

Venom in Reptiles' Eggs.

In the supplement of the Scientific American for December 21, the following interesting note is recorded :

"M. C. PHISALIX, of Paris, shows that the venom of reptiles is contained in the eggs, and seems to play a certain part in their development. He already pointed out that the eggs of the toad contained a certain number of the active principles of the venom, and drew the conclusion that these specifics had an important role in the phenomena of heredity. His new experiments seem to prove conclusively that this is true. He describes specially his researches upon the eggs of the viper (*Vipera aspis*). In this reptile the ovary commences its functions at the end of March, and if removed about the end of April we find in each ovary a collection of five or ten ovules whose large diameter varies from 0.08 to 0.7 inch. Cutting the ovule we extract a thick yellowish liquid. When this is diluted with water and inoculated in the guinea pig it causes effects which have all the characteristics of poisoning by the venom itself, a local swelling followed by progressive cooling and respiring trouble, ending in death. The substance which produces these symptoms has physical properties identical with those of the venom. It does not pass by dialysis and becomes more liquid when heated. The quantity of the extracted liquid which is needed to cause death by sub-cutaneous injection is 2 cubic centimeters. Double the quantity of the blood is needed for the same effect, and it seems that the ovules collect the active principles of the venom which circulate in the blood. The larger ovules have more of it, and the small ones scarcely any. None of the other organs of the reptile collect the venom, the liver, pancreas, thyroid glands, etc., and when inoculated, have no effect. To sum up, the active principles of the venom accumulate in the ovules. It is probable that other specific substances also pass from the blood into the ovule, and that these substances, like the venom, have an effect in the development of the egg. If this is the case, the mechanical phenomena of ontogenesis are accompanied by chemical phenomena which play an essential part in the formation of the organs and in the mechanism of heredity."

The deposit of poison in the ovules of reptiles during the process of fecundation is a new discovery. No other organ, except the ovules seems to be the repository of the poison. This is a peculiar phenomenon amongst the reptiles. The common notion prevalent in India is that the young snakes just after their birth are more poisonous than their adults.

An Action for Nuisance arising out of Noise.

In the *Lancet* of December 23, we find

"A recent decision of Mr Justice Warrington in the Chancery Division has been upheld by the Court of Appeal and may some day come under the cognisance of the House of Lords when it assembles under the presidency of a new Lord Chancellor. The point raised is a curious one, as it involves the right of a person who comes to live in a naturally noisy neighbourhood to prevent an increase of the noise arising after his arrival so as to interfere with his enjoyment of such quiet as may be said to have existed before. In other words the court was asked to say, and did say, that a person may "come to a nuisance" and then may complain if it is substantially increased. The plaintiff, to put his story shortly, lived and carried on business in the midst of newspaper offices and printing works, at Gough-square, Fleet street; new premises near to his house were opened for printing, where business was carried on by day and by night and it was of the noise of the machinery thus employed that he complained. The judge and the Court of Appeal have found in his favour, Lord Justice Cozens Hardy putting the case on this point thus: "It does not follow," said his lordship, "that because I live, say, in the manufacturing part of Sheffield, I cannot complain if a steam hammer is introduced next door and so worked as to render sleep at night almost impossible, although before its introduction my house was a reasonably comfortable abode, having regard to the local standard." It would be interesting to see what success would be met with by a litigant residing near one of the omnibus routes now traversed by the new motor omnibuses, should he endeavour to prevent the passage of vehicles which travel more noisily and at later hours than those drawn by horses. Whether the evil can be arrested or not in the case of highways, traction engines and motor omnibuses have made substantial addition to the disquiet of London life."

A nuisance is an objectionable thing, in any part of the world. Nuisance arising out of noise is not a less disturbance than other

kinds of nuisances. Any great noise after 10 P.M. is particularly bad as it disturbs sleep, and destroys good health. It is a provoking affair when a person of bad health has to suffer from the same cause. A precedent has been created by law against noise and we hope that its effect will be far reaching even in the continent of India.

Adulteration of Food and Drugs in Bombay.

We read from the *Lancet* of December 23, as follows :

"A paper on the Adulteration of Food and Drugs in Bombay by Mr. Dozabhai Rastamji Bardi, senior tutor in chemistry and medical jurisprudence at the Grant Medical College, appeared recently in the *Transactions of the Bombay Medical and Physical Society* (vol. ix., No. 1). From this paper it appears that the municipality of Bombay, which rejoices in the proud motto *Primus in India*, is unfortunately behind many civilised cities in the provision of means to detect and to prevent the adulteration of food and drugs. It has only one officer designated "analyst," whose principal duty seems to be to examine samples of municipal stores, but the work is so light that he is allowed to undertake private work in addition to his municipal duties. No facilities exist in Bombay for procuring samples of food and drugs for analysis and no recognised standards have been set up. In fact, present conditions would appear to be somewhat similar to those which existed in this country prior to 1860, when Parliament passed the first Act against the adulteration of food and drugs, being roused to activity by the reports of the Analytical Commission appointed by THE LANCET. That the adulteration of food and drugs in Bombay is very prevalent is shown by the results of the analysis of certain taxable foods and drugs which were examined by the Government chemical analyst, Bombay, for revenue purposes. Of 219 samples of ordinary foods and drinks examined from 1890 to 1900 no less than 105 were adulterated or unfit for consumption, while of 78 samples of drugs examined during 1892-95 no less than 65 were adulterated or unfit for consumption. Mr. Bardi describes in an able manner the various forms of adulteration which are practised on foods and drugs intended for consumption in Bombay. Of these, reference need only be made to those presenting unusual features. Milk is chiefly adulterated with water and is one of the most fruitful sources of disease in Bombay owing to the impurity of the water. As a result the infantile mortality reaches the high figure of 786.5 per 1000 births,

though this abnormal death-rate is partially attributed to the large use of adulterated condensed milks for the feeding of infants. In addition to the various products of the dairy known in this country the natives prepare large quantities of ghee and dahi. Ghee, also known as clarified butter, is prepared by boiling butter until it becomes granular and dahi, which is sour boiled milk in a coagulated form, is prepared by adding dahi or butter to boiled milk. Both these foods are extensively used, especially the former, and are adulterated to a great extent, the former with various fats and starches and the latter with impure water. The Hindus, who as a class consume a large quantity of ghee, suffer from digestive troubles which they, in common with their physicians, ascribe to its adulteration. In the case of bread a vetch, *Lathyrus sativus*, Khesari Dal, or *L. cicer*, is employed as an adulterant of barley and wheat. Mr. Bardi gives a list of poisonous chemical substances which are used for colouring sweets and confectionery. Thus, compounds of barium, arsenic, antimony, and lead are used for producing a yellow colour; compounds of arsenic with copper to give a green colour, compounds of barium and zinc to confer whiteness; and Prussian blue for producing a blue colour. In the case of tea, exhausted leaves are sometimes treated with catechu. Turning to drugs, Mr. Bardi enumerates those which have been found to be adulterated. Of these, santalin calls for special mention owing to the large proportion of boric acid with which many samples of it were adulterated. This is an ingenious fraud, advantage being taken of the similar, flaky appearance of boric acid and santalin. Mr. Bardi then proceeds to suggest suitable standards of purity and means of detecting adulteration. In the case of infants' food he proposes that it must be free from woody fibre, mineral matter insoluble in acids, and preservatives. It must not consist chiefly of starch and should be accompanied by directions as to the proper quantity for a child during 24 hours. Foods with a low percentage of fat should be made up with milk and milk foods should not be deprived of the milk fat. In reporting upon tinned foods, Mr. Bardi suggests the rejection as unfit of all tins that are perforated by nails or show angular indentations, together with those that are bulged out with gas and which are rusty or not hermetically sealed. When a tin produces a hollow sound on being gently struck with a small wooden mallet it should be condemned. Finally, Mr. Bardi considers the various means of preventing adulteration and suggests measures based on the English sale of Food and Drugs Act. A clause is inserted for

the examination of imported foods and drugs at the port of entry by properly qualified Government examiners, so as to prevent the importation of all adulterated articles. In the case of perishable drugs, Mr. Bardi urges the necessity for adopting special precautions similar to those suggested by the Medico-Legal Society of New York, whereby such drugs should be marked with the date of manufacture and a time limit fixed, after which the drug would be unfit for use. As regards repressive measures, Mr. Bardi approves of the Parisian method of fining a dishonest shopkeeper and then condemning him to a public confession of his guilt by stating the particulars on a large placard conspicuously exhibited in his shop during the pleasure of the court."

Mr. Bardi's interesting note wants a large circulation so as to adopt steps for the prevention of adulteration of food and drugs. The chemical analysis has discovered 'many' condemnable state of things. If bacteriological analysis is carried on with them, more horrible state of affairs will be divulged. All the towns of India, including Calcutta are suffering from consumption of objectionable articles of food and drugs. The patent foods and medicines are great dangers to the child-life. The mischievous gun is allowed in India for the sake of commercial profit. The land of abundant milk is supplied with foreign condensed milk. The depravity of taste allows that unwholesome diet. The country of fresh meat is over-burdened with preserved animal foods. Fashion overrules the common sense at the cost of health. It is nothing but an infatuation that we submit to the use of the bad articles of food, which were prepared months and years before. The fashionable physicians recommend them. Trade unionism has deprived our sober sense. Stringent laws should be enforced to regulate the sale of foods and drugs.

Science in the Service of Fraud.

The *Lancet*, of February 10, has published the following note :

"In some ways the detection of adulteration is resolving itself into a scheme for exposing the devices of skilled scientific men, for there is little doubt that there are men who in the name of science aid and encourage the practice of adulteration and who place their knowledge and skill at the disposal of manufacturers, knowing full well that their advice and suggestions are to be applied with the deliberate aim of defeating the detection of fraud. The manufacturers of such goods may, of course, have received sufficient training themselves in scientific and technical matters to enable them to apply their knowledge to dishonourable practices but

it is more probable that the services and counsel of an expert are called in. The occupation which such an expert chooses to follow for his own gain can only be described as contemptible, and if his services in this direction can be proved to have been offered with the object of defeating justice it seems to us that the law should be able to reach him and to mete out to him a severe reward in the shape of imprisonment. Analysts are constantly confronted with considerable difficulties in the detection of modern fraud, so ingenious are the tricks of unscrupulous persons. Indeed, the tricks bear unmistakable evidence of a scientific conjuror who knows perfectly well what the analyst is guided by in making a search for adulterations. The analyst looks, for example, for certain factors in a food which when he has found them to satisfy a given standard he regards as evidence of genuineness, and yet the article may be a fraud, the factors being artificial and manipulated by the scientific adviser. Such may be the case especially with oils and with butter, the genuineness of which is judged partly by physical constants and partly by chemical behaviour. The physical constants and the chemical behaviour may respond as though the article were genuine but all the same it may not be so but may only show the characteristics of the genuine substance which after all may have been artificially given to it. A sample of genuine brandy, for example, contains a certain proportion of ether but it does not follow that because a spirit contains this amount of ether it is genuine brandy. There can be no doubt that when a standard of ether, rightly or wrongly, was laid down for brandy this deficiency in spurious brandy was made up, on the advice of an expert, by adding artificial ether. Yet another example. A genuine wine contains fairly constant amounts of alcohol, tannin, glycerine, and so on, but it would be utterly unscientific to conclude that because an article described as wine contained these things in the same amount it was genuine wine. And there is little doubt that advice is cheerfully offered by experts in the name of science to give a false *tout ensemble* to many articles of food as well as clothing. Their education, knowledge, and skill do not exempt them from being branded as infamous cheats; on the contrary, their conduct is more contemptible than if they were ignorant men."

Artificial preparation of food stuffs is becoming dangerous in consideration to the preservation of health. There are artificial butters, oils, wine, brandy, etc. The sordid gain of money has induced scientific experts to prostitute their genius of discovery in enhancing adulteration or produce artificial substances of food which are quite inappropriate for preservation of health. The chemical analyses of the artificial foods may be equal to the genuine substances. The physiological consideration amply shows that the artificial food can not impart that nutritious character which can be found in the natural products. The attempt to substitute the imitated substance in the place of the real object is not only bad, but it is also a dangerous practice which should be prohibited by the rigorous force of law.

Medical Observations in the Arctic Regions.

The British Medical Journal of February 3, has the following interesting note on Eskimos.

"DR. NICHOLAS SENN, who appears to be wandering about the world like a medical Ulysses observing the manners of men and their mode of life, gives, in a recent number of the *Journal of the American Medical Association* an account of a summer trip to North Greenland which he made in the supply ship of the Peary expedition. The Smith's Sound Eskimos, he says, are the original unadulterated stock and present many peculiar racial features, especially as regards their habits and resistance to disease. To their exclusively carnivorous diet Dr. Senn attributes not only their freedom from scurvy—the scourge of Arctic expeditions—but also the absence of enlarged tonsils and cervical lymphatic glands and goitre. Their splendid teeth and strong lower jaws are ascribed to the same cause. He suggests that the absence of all vegetable food from the diet has shortened the gastro-intestinal canal; that the appendix, if mesent, is only rudimentary, and that the glands concerned in the digestion of starchy food have become atrophied, while those needed in the digestion of meat and the emulsification of fats are hypertrophied. The large percentage of oil in the diet acts as a laxative, and protects the Eskimos from a multitude of ailments met with in civilized communities. Notwithstanding their uncleanly habits, their freedom from skin diseases is remarkable; and Dr. Senn is inclined to think that perhaps their avoidance of the external use of water may have something to do with this. This somewhat startling view would doubtless have the support of Professor Nussner, who sees in the abrasion of the horny layer by too vigorous ablution the removal of the chief protection of the skin against infection. Tuberculosis is unknown among Eskimos in their own country, though they quickly succumb to it in a different climate. Venereal diseases run a very mild course. Insanity is unknown, but in the long winters an anæmic condition becomes developed, which may give rise to certain hysterical symptoms; the anaemia, however, never becomes chronic. During the summer there is a corresponding plethora and attacks of epistaxis are common. Degenerative diseases, arteriosclerosis, Bright's disease, etc., are rare. In the ordinary course of their lives Eskimos are not subject to coughs and colds, but catarrhal attacks follow visits to ships. Introduced epidemic disorders have played havoc among them. Dr. Senn especially mentions a sort of Arctic dysentery that seems to have started from Finland and travelled nearly around the Arctic circle. He suggests that the infection must have been conveyed over the vast uninhabited tracts by migratory birds. Influenza has also been very destructive among the Eskimos. They appear to have no native medicine, and their surgery is of the most rudimentary kind. Suppurating wounds, however, are rare in the germ-free atmosphere in which they have their being. Tumours seem to be unknown—a circumstance which Dr. Senn is disposed to attribute, in part at least, to the highly iodized meat diet. Their obstetric methods are primitive, but

childbirth is not with them a severe process. Children are nursed until they are 2 or 3 years old, and are generally healthy. Dr. Senn believes that uterine and ovarian diseases are uncommon. In conclusion, he mentions a peculiar distemper of dogs, resembling rabies, but differing in certain respects. Animal parasites, such as tapeworm, appear to be rare."

Dr. Senn's remarks on the causes of the freedom of the Eskimos from many diseases are open to criticism. He attributes every thing to meat diet. It is an undoubtable fact that the heat due to animal life is kept up by consumption of meat and fat. The absence of scurvy may be the result of taking fresh meat. It is not a fact that scurvy depends on taking meat alone without vegetables. Fresh vegetable or fresh meat prevents scurvy. The reason is that micro-organisms producing the putrefaction of animal and vegetable diet create the diseases. In Eastern Bengal a kind of scurvy is observed which seems to be the effect of putrefactive diet. The immunity of Eskimos from many diseases may be ascribed to their secluded position and abnormal cold which prevent the spread of pathogenic microbes and create then forced dormancy, if they happen to come amongst them.

CLINICAL RECORD.

Foreign.

CLINICAL CASES:

BY J. R. P. LAMBERT, M. D.

CASE 1.—Mrs. B, housekeeper, came to see me January 16, 1895, complaining of rheumatism, chiefly in the knees, which were slightly swollen. From thence the pain ran up the thighs. She had suffered from this two years. She also had a pain in the back, like lumbago, and sometimes pain in the hands and wrists. She used previously to have great pain in the feet.

There was < on movement at first, but > from continuous movement. She had no pain on sitting, but on getting up was very stiff; can hardly move hand after sitting < when warm in bed, but the pain was very severe only on movement. Weather no effect. No nodosities. No headaches.

She also suffered at times from great pain (tearing) after all food. "Can't take eggs." She had flatulence, with eructations, which sometimes gave relief. There was no vomiting or nausea. The tongue was coated and brown at the back. She had also obstinate constipation. No inclination, stools very dry and often grey in colour. No pain on defecation. Liable to attacks of very acute abdominal pain, which brandy relieves. Takes *Cascara* habitually. Urine too frequent—no sediment. Hot flushes very often; was passing through climacteric period. Skin very sensitive and red. On examination heart sounds noted, ringing in character, no murmur heard. Was ordered Sulph. 30 n. and m., *Cimic. Ex.* t.d.s.

I did not see her again till September 21, 1895, when she brought her daughter to see me, and reported herself very much better. after one week she was quite changed. Bowels quite regular.

Remarks.—The only unsatisfactory point about this case is the prescription. If she had come ten years later she would have received only one medicine, and unless some symptoms were not noted the *Cimicifuga* seems quite superfluous, and the result may, I think, be quite well attributed to the *Sulphur*. The motion modalities would, of course, suggest *Rhus* ϵ , but it has $\gg$ not $\ll$ from warmth, and when *Rhus* is indicated there is generally $\ll$ from wet weather.

• CASE 2 — Mrs W, daughter of the above, came to me on September 21, 1895. She had suffered from dyspepsia for years, and presented the following symptoms: Pain in epigastrium half hour after food. $\gg$ pressure. Also pain in abdomen and between the shoulders. Flatulence immediately after food, always a great deal. Eructates a little with relief. Bowels quite regular under use of massage, previously constipated. Tongue coated and dirty at back. Frontal headache like a weight. Sleeplessness—difficulty in getting to sleep; dreams very much and waks often, and is not refreshed by sleep. Three years ago she lost her husband, having nursed him through a long illness, and has not been well since. She suffers with her throat, which feels as if swollen. Has had it cauterised often, without effect. Feeling of weakness in throat. Occasional tightness down trachea. Always languid and tired. Nervous, easily startled; very depressed at times. Catamenia regular, scanty no pain. Gets a peculiar headache before and aching in the thighs, $\gg$ by flow. The dyspepsia is worse after the period. *Ign.* 3 m v t.d s.

October 5th —Sleeping much better, is less depressed. Dyspepsia no better. Still much flatulence and pain. Always feels very well in the morning. Voice no better, and throat uncomfortable. *Puls.* 30 t.d.

October 17th.—Reported much better in every way—throat stronger.

In this case *Pulsatilla* in the first instance might have been sufficient, but the nervous symptoms strongly suggested *Ignatia*, which had a beneficial effect.

CASE 3.—Miss G. B., 19, consulted me October 21, 1895, for indigestion, from which she had suffered for three years. Her principal symptom was heartburn all the way up the esophagus. It came on 1—2 hours after meals, occurred after all food, sometimes lasting all day. Occasional pain in epigastrium after food. Flatulence with eructations (tasteless) gives no relief. Borborygmus. No nausea or vomiting. Bowels regular. No headaches. Tongue clean. Catamenia scanty and too frequent. General health and spirits good. When she has indigestion her face burns. She has had homoeopathic treatment, and used to find relief from *Puls.* 3x. This statement confirmed my choice of medicine *Puls.*, which was given in the 30th potency.

November 14th.—Much better. After a week no more pain. So she stopped the medicine and has only taken it a few times since. Burning of face and flatulence also better.

January 7, 1896.—Complains again of heartburn and pain in chest shooting upwards, about one hour p.m., and lasts till next meal. Burning in face better. Took *Puls.* 30 a few days ago, but without relief. *Puls.* 200

January 29th.—Report much better. No pain. This time the improvement was maintained.

The chief interest in this case is in connection with the potency question; the publication of all such cases would help to elucidate this difficult problem.

CASE 4 —Miss M, 21 (1) complained of great pain in her chest and shoulders, chiefly right side, which had lasted nine or ten weeks. Paragreater at night and morning. Not worse after food. Wants to take deep breath. Pain shoots through from front to back, and is very sharp at times. She had also a slight cough, with scanty expectoration. Worse on first getting up. Wakes every two or three hours. Occasional perspiration at night. Slight discomfort after food. Examination of the lung was negative. She was given *Kuli carb* 12 on October 25, 1895, and in a fortnight was much better and nearly well, and the cure has proved permanent.

CASE 5 —Miss M. B. came to me on February 26, 1895, complaining of "gout" in the first metacarpo-phalangeal articulation of each hand only. These joints were much thickened, but not painful to touch, nor red. Bad two years. Pain like a burning wire thrust in. Always better in summer. Worse in cold weather, and in water. Can't bear water in winter. Cold air aggravates movement. Her general health is fair, suffers from her heart and dyspepsia. She has suffered from palpitation and faintness since she was 16. Auscultation showed the sounds to be very weak at the base, but no bruit was heard. Pulse weak and soft. She had rheumatic inflammation of the eye twelve years ago.

Gastric Symptoms.—Nearly always hungry as if not enough, or as if too much. Flatulence after meals. Can't bear clothes on. Eructations give relief. No pain in stomach unless she is cold. Sinking if moves about quickly. Generally hungry 10—11 a.m.

Acidity in mouth. Can't take milk. Meat suits best. Bowels regular; inclined to be loose with griping pain. Suffers very much with cold feet. Ordered *Sulph* 30 ttd.

March 30th.—Has been better. Less swelling of stomach after meals. Acidity still. Rheumatism not much better. Never feels satisfied. No appetite. Feels the cold in her hands very much. Least draught on abdomen causes diarrhoea *Sep* 30

April 13th.—Fulness much better, and still has acidity. Never feels satisfied. Cannot stand fresh air, or draughts of air, which increases rheumatism. *Stl.* 30.

I publish this case as a failure rather than a success. It shows how remedies partially homœopathic may help to a considerable extent. From a review of the symptoms now *Calc. c.* seems to me the best indicated remedy. It meets the following generals: worse from cold, better in summer, worse from water, can't bear water in winter, worse in cold air. Can't take milk, as well as many other symptoms, as hunger, sinking, acidity. These symptoms are sufficient to show a close analogy.

CASE 6 —Miss A., a young woman of about 20, shop assistant, came to me on March 16, 1896, complaining of pain in the chest and vomiting after all food. The pain was continued all day, worse one to two hours after food, very acute at times. Feeling of pressure in epigastrium as if something would not move. Also a "raw" pain all along esophagus. Vomits after all food, the pain seems to cause vomiting; on one occasion vomited some blood from retching, often coffee-ground vomiting.

She also suffered from frontal headache, shortness of breath on exertion, some palpitation, and great weakness. She had a slight cough, for which she had been attending the Brompton Hospital. Losing flesh lately; occasional night-sweats; low-spirited. Catamenia regular. Bowels regular usually.

Examination of lungs was negative. The tongue was dirty at the back.

She was put on liquid diet and given *Puls.* 30 m in j every three hours.

March 26th.—Has not been sick for a week. The bad pain was relieved after three days. Still has heartburn, but less than before.

Less headache. Tongue cleaner, rather denuded. Cough same. Continue.

April 9th.—Is much better. Pain now only when tired, and does not amount to more than a feeling of soreness. Has eaten bread and butter and lightly boiled egg without pain. Tongue clean, less denuded. To try minced beef. Continue *Puls.* 30 night and morning.

May 23th.—Has been away, and is much better and stronger, still has occasional pain after food, soreness, and burning. Tongue denuded. *Ars* 30 t.d.s.

Here my notes end, but I have seen patient several times, and she has since married, and till a year or so ago had no return of her trouble.

CASE 7.—Mr A. D., a married man of about 35, has had urethritis for three weeks, and been under an allopath, but cannot take the medicine; it caused painful erections. He had no pain to speak of, but some smarting after taking alcohol. Thick, white creamy discharge, not profuse. Micturition normal in frequency.

Seen June 4, 1896, and ordered *Can sat* ix m iv four hours.

June 15th.—Almost instantaneous relief from the *Cannabis*. During micturition has a sort of thrill all over, and has to go again in about twenty minutes. At night micturition frequent; gets up several times. Discharge has practically ceased for some days. He has taken three doses of *Canth.* 3x on his own account. Has a pleasant sensation on pressing perineum. *Camph* pill, occasional doses.

June 17th.—Last night able to empty bladder completely; previously experienced a sudden stoppage like putting one's foot on a hose. This morning experienced same symptom, so took a *Camphor* pill, and had no trouble next time, but still experiences stinging pain during and for some minutes after micturition. Has sensation of urine dribbling. He was instructed to continue the *Camphor* a little longer, and then resume the *Cannabis* freely diluted, i.e., about 4 minims to half a pint of water, dessertspoonful doses.

June 24th.—Is better. Micturition quite free, more so than for a long time. Still few drops of discharge. For three days he had violent headache (unfortunately no details noted). Continue *Cannab.*

July 17th.—Has had some return of pain, a sort of spasm, for which he took *Camphor* again. Has had slightly painful erections.

every morning three or four times. There is still slight discharge, but one day he took four^d drops of *Cannabis*, and it produced a free discharge. He was now given *Thuja* 12.

August 6th.—He took the *Thuja* two days only, and the erections ceased. The discharge, which also had ceased, has now returned. Repeat *Thuja*.

I did not see the patient again till the following May, when he consulted me about some gastric symptoms and a large warty growth the size of a pea, on the scalp. He had had it then for six weeks, and attributed it to a scratch from a comb. He said he easily broke pieces off it; and that it bled easily and profusely. He was told to paint it with *Thuja*, which first aggravated it, but on stopping its application the wart went.

Remarks.—The interest in this case lies in the aggravation produced by *Cannabis* 1x, which *Camphor* pilules antidoted.

Whether the peculiar symptom of "sudden stoppage of flow with sensation as if one stepped on a hose with one's foot" can be attributed to *Cannabis* needs confirmation. It has "spasmodic closure of sphincters while finishing" (Kent).

I did not at the time regard the urothrititis as specific, but there might have been a causal connection between it and the wart.

CASE 8—Miss S., 51. Seen first October 2, 1896, complaining of soreness in left breast down into the abdomen. Any exertion, such as hurrying, brings it on, and also causes numb sensation in the head as if she would fall. Sensation on vertex as if hair lifted up. Appetite bad—no pain after food, but much flatulence, with very loud rumbling, and eructations. Sore, aching feeling in left groin. Bowels constipated—takes liquorice powder. Cold hands and feet. Urine very clear, colourless, not excessive. Catamenia irregular a long time. Sleep bad, restless. Cold chills. Fluttering all over, Palpitation at times. Heart sounds normal, no bruit. Feels worse in morning, at 9 a.m. All symptoms left side—chest, abdomen, throat, face. Prescribed Sulph. 30.

October 23rd.—Not much better. Bowels not acting. *Lycop.* 4x. (*Ign.* 3, p.r.n., for sleep.)

November 16th.—Much better. Thinks the powders set her going. Bowels acting daily. Flatulence much better, not quite so well since the powders were finished. Repeat *Lycop.*, *Ign.* at night.

December 11th — Better, but still gets palpitation and fluttering, which prevents her getting her breath, wakes up with it. Feels worse on waking. Hot flushes. Flatulence still much better. Bowels daily *Lach 30*

December 30th — Left side more painful for a week, feels sick and faint. "Cramp in spine" Pricking like pins and needles in left arm and leg. Fluttering better at night. Flatulence occasionally. Urine contains a thick red sediment at times, *Lycop. 20.*

Remarks — I regret that the prescriptions are not given more fully, but in those days my practice was to give medicine thrice daily in chronic cases, and such may be fairly assumed.

The main interest in the case to me centres in that fact of the good effect of *Lycop 4x* (even in a left-sided patient with morning aggravation), as I have for some years seldom used it below the 30th, and it has been asserted by some great homeopaths of the past that it is no use below the 12th potency. The notes show that the *Lycopodium* did act and not merely play the part of an inert placebo to *Sulphur*. The *Lycop 30* was presumably complementary to *Lachesis*, which also helped.

CASE 9.—Mrs F, seen February 27, 1897. Complaining of palpitation since December, and feeling as if heart rolled over and over instead of beating, this causes a sort of suffocation. She feels it on getting to bed as soon as she lies down.

She has also a dull pain under the left shoulder in the morning, not worse after eating.

She is very depressed at times. Last October she lost a child through diphtheria.

Liable to sick headaches—seldom goes four weeks without an attack (used formerly to have them more often). Attacks last eight hours. Pain comes and goes gradually. Pain is localised to one spot in the temple, then she vomits two or three times, which relieves the pain. The attack may begin on waking or in the evening. Has had these attacks as long as she can remember.

Appetite good. No pain after food. Bowels regular. Catamenia regular, and never much pain at the time.

She had rheumatic fever at 14, attributed to getting wet, and has had occasional joint pains since.

The heart's action was regular, no bruits heard, but tendency to reduplication of first sound noted. She suffered no dyspnea. *Ignatia* 3x was prescribed, and eighteen months later she reported, "medicine acted surprisingly, was better in a week and well since," and I have not seen her since.

Remark.—The peculiar heart symptoms are worth noting.

CASE 10.—*Aprapos* of this case and the remarks by Dr. Clarke in last month's HOMŒOPATHIC WORLD in his letter to the *Medical Press*, headed "*Nux Vomica* and *Ignatia*," I record the following case, which I had passed over.

Mrs S. came to see me June 13, 1895, complaining of great pain across the epigastrium and vomiting. The latter symptom of a week's duration, the pain two weeks. The pain was not constant, but occurred after food, sometimes not for two or three hours or more after a meal. It did not occur after all food, and was aggravated by fruit. She had a good deal of flatulence and slight eructation. The vomit was very sour. The stomach, she said, was sore to touch; she felt sick on walking.

The pain was gnawing, acute, and worse from bending forward; "has to take her corsets off." Sinking in stomach. Bowels constipated. Tongue denuded, glazed.

Urine said to be clear, "has to get up at night very often, very urgent." Backache relieved lying down.

Examination negative, abdomen not very sore to touch, bears pressure.

Patient is very low-spirited, languid, very nervous, and worrying very much about her mother. *Ignatia* 3x t.d.s. ordered.

I did not see her again, but on February 26, 1897. Case 9 came to me through her recommendation and brought report that medicine did her a lot of good.

Remark.—The gastric symptoms alone in this case would have suggested *Nux* to most homœopaths and perhaps a few of Dr Murrell's colleagues, but the mental symptoms lead to the selection of *Ignatia* in preference. It shows, too, that the characteristic *Nux* symptom—pain two hours after eating—would apply to *Ignatia* also, other symptoms corresponding.

CASE 11.—Miss E. B., servant, seen first March 10, 1897, complaining of dyspepsia, from which she had suffered for twelve months. Symptoms noted—flatulence, without eructations, distension, has to take her stays off. It occurs after all food immediately; sudden satiety. Great pain in chest and back, sharp. At night feels quite empty. Aggravation from 5 to 6 p.m. Has to go to bed after dinner. Bowels regular. Urine thick, and pain at times, on micturition. Bad frontal headache at times, with pain in eyes. Lips sore and peel. *Lycop* 30 t.i.d.

March 30th.—Has no pain now after food. Flatulence much better. Urine still thick at times. Headache a few times. Repeat.

On July 27th the medicine was again repeated, but no notes made.

November 1st.—Complained of indigestion again "very badly." Flatulence about half-hour after food. Rumbling occasionally. Sharp pain in epigastrium. Has to take off stays. A change in the symptoms will be noted here in that the flatulence only began to trouble her half-hour after meals instead of immediately, and the pain is noted in the epigastrium, but the *Lycopodium* having acted so well was again given.

November 8th.—Not so well. Pain still sharp like flint stones cutting. Has to bend double with the pain. Better on lying flat and taking clothes off. Is very thirsty. *Bry. Q* powders to be mixed in half a tumbler of water, 3ij doses.

November 15th.—Is much better. Pain not sharp now. Repeat. This apparently relieved her for some time, as I did not hear of her till October 23, 1898, when she consulted me by letter, saying, "Indigestion bad again, flatulence, but eructations. Pain all round the loins." On these scanty symptoms I prescribed *Lycop* 30 again every four hours.

October 30th.—Letter. No better. "Spasm" several times last week. *Bry. Q*

November 7th.—Much better. Still has pain, but not acute, and no spasms. Repeat *Bry. 3*.

Remarks.—The initial indications in this case for *Lycopodium* were as typical as one could wish, and clearly show that *Lycopodium* is not a remedy for intestinal flatulence only. On the second occa-

sion, November 1st, it was clearly an incorrect prescription, and *Bryonia* was just as clearly indicated, and acted well in low potency though I think it better to use it higher as it is apt to aggravate when used too low.

CASE 12—Miss A. consulted me July 5, 1897, complaining of anemia, for which she had been treated by a doctor of the old school for a long time, without result. She had been gradually going down in health for three or four years. She gave the following symptoms:—

Is very short of breath, and gets very yellow; has lately been getting very dark, whereas she used to be fair. Hair falls out. Is very low-spirited, but all right in company.

Headaches severe, as if everything going to the top of the head.

Memory very bad indeed.

Head very confused, "reeling" in head.

Burning on top of head.

Objects look larger at a distance than near.

Appetite good, as a rule, no pain after meals, but occasionally pain like a weight all round stomach. Feels very sick, but never vomits.

Hunger at 11 a.m. Eats very little breakfast.

Bowels regular. Tongue clean.

Dragging pain in right side of abdomen, feels as if would faint.

Backache less on lying down.

Catamenia scanty, practically nothing for a long time—painless.

She was dark, sallow complexion, dark hair, spotty skin, and the conjunctivæ showed some icterus. Prescribed *Sulph* 30 t.d.s.

July 21st.—Is feeling somewhat better, but has been doing no work. Back very bad; nettlerash at night.

Examination of eyes showed some slight hyperopia with astigmatism in each eye, which was corrected. *Iga* 3x t.d.s.

August 16th.—Has been much better. Can't do without the glasses. Has had headache this week. Was much better while taking the medicine. Rep.

September 11th.—Not quite so well. Has had less headache, but otherwise the same. Always feels tired. Amenorrhea; still feels very miserable. Is not gaining flesh. Worse after brain-work. *Senecio* 2x t d s.

November 17th.—Came to report herself perfectly well. I saw her again a year or two later for her eyes, and she had remained well.

CASE 13.—Mrs. D., seen September 24, 1897. Pregnant five months. A few days ago, sudden hemorrhage for a few minutes, about half a pint. Had no pain at the time, but now has a feeling as if something wants to come away. The hemorrhage has now ceased.

Examination revealed no dilatation of the os. Ordered *Fib prun.* dose not noted.

October 14th.—There has been some more hemorrhage, and on October 4th a considerable amount.

Has had sciatica badly both sides (worse left) and cramps. Abdomen swells after meals. Is quite flat in the morning first thing. *Nux mosch.* 3x.

October 21st.—Has had sciatica all night, chiefly right side. Pain very sharp, has always been subject to it. Worse from movement, wet weather, and in winter. Flatulence has been better. *Coloc.* 3 p.m.

November 11th.—Sciatica quite gone. Has had fainting fits lasting an hour, usually at dinner time; better by loosening the clothes. Suffocating sensation at the heart, "not due to tight clothes, but better from taking clothes off."

The flatulence has quite gone. (Increase by *Nux m*) There is no bleeding now, but a white discharge like milk. For these symptoms *Lach* 30 was ordered. I did not see her again for some time, but she went to full time; the accouchement taking place in a remote suburb I did not attend.

I pass over a few other items in the notes till December 15, 1902, when she complained of constantly feeling tired, which increases if she does nothing. Had been so two months. Catamenia every two weeks; loses a good deal every other time. It lasts a week or so, and is accompanied by very little pain. The blood is bright, and is more profuse after getting about in the morning.

Appetite bad—no hunger.

Very tired after work, feels it in the epigastrium.

Sobs in sleep. Yawns a great deal.

Headache frontal, and occipital, sometimes wakes with it.

Aggravation after second sleep; feels as heavy as lead.

Lessens towards evening. *Lach* 30 t d s.

December 22nd—Is much better; not as well for a long time, except that she has slept badly for some days.

Appetite good *Ign* 5 to be taken at bed time if required.

CASE 14.—MISS B, about 20, servant, complained on October 15, 1897, of dyspepsia, and swelling of the abdomen, aggravation after meals. There was no rumbling or passage of flatus. She also had pain through the chest to between the scapulæ, of a dull, heavy character, one hour or more after eating.

She suffered also from headache, frontal, almost constant, aggravation in evening, but wakes with it.

Palpitation and shortness of breath. Scanty menses.

Face burns after meals.

Constipation, some days no inclination at all.

Urine, thick white sediment.

Nothing was found on examination, except a venous hum in the neck. *Lycop.* 30 t d.

November 19th—Is much better, hardly any flatulence now, and no pain after meals. Bowels regular now.

Catamenia delayed two weeks, but more profuse.

Palpitation and dyspnea still and some swelling of stomach. *Rep.*

I did not see her again till October 5, 1900, when she complained of great palpitation and shortness of breath.

Stomach swells immediately after meals, wants her clothes off; aggravation in the evening.

Headache very bad in the temples, constant, wakes with it. *Lycop.* 30 m iv t d.

December 10th.—Was much better till last week, when she had an abscess in the mouth, which upset stomach again. *Rep.*

March 21, 1901.—Flatulence bad again, and short of breath. She had some of last medicine left, which she has taken for two weeks without relief.

Present symptoms: Pain in back, stomach swells as soon as she eats. Face burns after meals. Constipation. *Lycop.* 30 m iv t d.

I did not see her again till the following September, when she complained of similar symptoms, and no note of previous result.

Remarks.—This case presents one if not two errors in the later prescriptions. It will be noticed that after the first good effect in 1897, followed by a lengthy period of amelioration, the similar symptoms recurred at shorter intervals, and a change in potency if not of remedy was called for, especially on March 20, 1901, when the remedy had apparently failed. As to the change of potency, Kent would say it should be given higher to get a deeper effect; Hahnemann said after 30 has done good, one may give it lower. My own impression now is that *Natrum mur* was better indicated.

CASE 15.—Miss L, an elderly lady, consulted me January 6, 1898 for pain in her right knee, from which she had suffered since the previous August. The pain was great at times, and she had difficulty in straightening the leg. It began gradually and was more or less constant, but always stiff. It was easier when extended. The following modalities were noted: worse after sitting; better after moving; but worse on long moving, worse before damp, can tell when damp is coming; worse at night. *Rhus t.* 12.

January 20th.—No better. If anything, knee is rather more painful, worse to day, being wet. *Rhus t.* 3x in iv. t. d. s.

June, 1899.—She reported great relief from the second medicine, not troubled since.

The moral of this case is not that low potencies are always to be preferred to high, but it shows that the higher are not always the best.

CASE 16.—Miss C, servant, about 20 years of age, complained of dysmenorrhea. She always had great pain for one day. The period was delayed and irregular, occurring every five or six weeks, and was too profuse, clotted and very black.

There was great pain in the hypogastrium and aching of the legs. No pain in the back. The pain makes her bend double and press against something.

She also suffered from pain in the chest, of a sharp cutting character going through to between the scapulæ, occurring immediately after food. The pain catches her breath. No flatulence. Bowels regular. No headaches. Sleep good. For these symptoms she was given on June 11, 1900, some powders of *Kali mur* 6x, to be dissolved into fractional doses. I have no note as to frequency of doses.

October 8th.—She reported that the period is much better, quite right now. On this occasion she complained of indigestion; pain like a stone behind the lower part of sternum all last week. worse

after tea, better when lying down, better out of doors. No other pain, on flatulence. *Puls* 30 t.d.s.

October 17th.—Reported great relief from the medicine.

On June 20, 1902, when consulting me for a cold and cough, she stated that since June, 1900, she never had much pain with period and sometimes none.

CASE 17.—Miss S., middle-aged. Seen July 25, 1901. Complaining of attacks of faintness, with pain in the left side and arm. Loses use of the left hand sometimes.

Two years ago had influenza, and since then has lost weight, 6 lbs. in all.

Appetite not very good. Not much pain after meals, but discomfort and fulness very soon after eating. Has to loosen her clothes. Nausea.

The pain in the side was described as fulness and tenderness, not a sharp pain.

Bowels constipated; stools large.

Always worse in morning, better towards evening.

She also complained of headaches on vertex and down the back; wakes up with headaches, heavy feeling, fulness in head, can't hold her head up, nausea with the headache.

• Sleep very good. *Nux* 6 t.d.s.

August 14th.—Is better. The pain under the arm was relieved after a few doses. Not nearly so much nausea, no headaches. Still flatulence immediately after meals. Bowels about the same. Breath very offensive in the morning. *Nux* v 30 t.d.s.

September 10th.—Flatulence a little more worse after breakfast. Vertigo in the morning, worse on stooping.

Bowels better. No headache since beginning treatment. Hungry, sinking at 11 a.m. Suffers from cold hands and feet in the winter. Discomfort in left side.

Fulness at back of head, worse on stooping and turning quickly. *Sulph* 30 t.d.s.

November 4th.—Is much better. No sickness and indigestion much better, but still a little flatulence and soreness in side. Rep. *Nux* v. 30 t.d.s.

Not seen since.—*Homœopathic World*, Oct. 1905 to Feb. 1906.

Gleanings from Contemporary Literature.

OLD AGE. •

By ELIE METCHNIKOFF, Sub-director of the Pasteur Institute.

(Continued from page 43.)

In the case which we have just cited there occurs an acute poisoning, occasioned by the toxic products of microbes and of mushrooms introduced into the intestines. Now, there is no doubt but that there occur besides these examples others in which the poisoning is less violent and less rapid and in which the microbes of the intestinal contents secrete their products for a long time, thus setting up a chronic poisoning. It is exactly among these products that we should seek for the cause of the weakening of our noble elements and the stimulation of the destructive activity of the macrophages. It is true that certain poisons once absorbed by the organism initiate the production of counter poisons. Thus, Ehrlich, after having caused his mice to swallow quantities of vegetable toxines, ricine and abrine proved that the blood of these animals became the best antidote against these poisons. The human organism after absorbing for years the microbial products elaborated in the intestines might indeed thus acquire an immunity with regard to them. This supposition is very probable, but it does not at all apply to a whole series of microbial poisons, such as the phenolic substances, the ammoniacal salts, and others, for their absorption occasions no production of counter poisons.

According to the hypothesis we are advancing, the principal phenomena of old age depend upon the indirect action of microbes that become collected in our digestive tube. And, since the wearing away of the substance of the bones in tuberculosis and leprosy is effected by osteoclasts excited by the poisons derived from the bacilli characteristic of those two maladies so the same wearing away of the bones may come from a stimulation of the same osteoclasts by the poisons of intestinal microbes. If, this is the case, our organism contains within itself the cause of its own destruction, in the same way that grapes carry upon their surface the germs of the ferments that set up alcoholic fermentation by destroying the sugar the fruits contain.

This hypothesis rests upon a great number of well-established facts, but it lacks direct proof, which can only be furnished by investigations carried on for long years. In this imperfect state it becomes necessary to bring together as many arguments as possible in order to justify our supposition.

If it is really intestinal microbes that are the cause of our senile atrophy we must believe that the more the flora of the intestines is reduced the fewer manifestations of old age there will be.

If we compare an old mammal with an old bird we are at once struck with the great difference in their external appearance. An old horse or an old dog can easily be recognized by its ugliness, its lazy movements, its worn teeth, its lusterless hair turned white on certain portions of the body. A dog of 12 to 15 years shows very markedly all these signs of senile

decrepitude. Birds keep their age much better and longer than mammals do. An aged duck, more than 20 years old, is alert in its movements and does not show externally any sign of its advanced age. Parrots and parrots also remain for long years in a very youthful state. A little parrot from 15 to 19 years old, which I observed very closely for several years, manifested no signs whatever of old age. It was very lively and curious, interesting itself in all sorts of things about it, and its plumage was brilliant and richly colored. We have possessed for some years past a parrot that, according to reliable information must be from 70 to 75 years old. It is impossible to recognize its advanced age, so normal is its appearance and so easy are its movements.

The few examples just cited confirm the general rule that birds have a much greater longevity than the large majority of mammals. Now birds are distinguished by having an intestinal flora very much poorer in microbes than that of mammals. Possessing no large intestine, birds lack that great reservoir for alimentary refuse which, in mammals, breeds an enormous quantity of all sorts of microbes. A very simple method of assuring ourselves of this consists in a microscopic examination directed toward ascertaining the comparative quantity of microbes contained in different parts of the digestive tube of a small mammal, a white mouse for example. We find quite a large number in the stomach; very few in the upper portions of the small intestine. The lower part of the small intestine contains many microbes, but it is in the cæcum and the large intestine that are found quantities truly enormous. The examination of the digestive organs of a small bird, a canary for example, having the same weight as the mouse above mentioned, gives quite a different result. In canaries microbes are found, but in very small numbers. The stomach and the small intestine contain throughout their course only a few isolated specimens. The inferior portion of the intestinal tract contains a few more microbes, but their number is very far from being equal to that found in the mouse. The cæcum, that large reservoir for intestinal microbes in the mouse, is represented in the canary merely by two rudimentary *cæca de sac* destitute of microbes. It is not astonishing that, under these conditions, the toxic effects derived from intestinal sources should be much less in the canary (and in birds in general) than in the mouse and most other animals. So we see that while the mouse is already old after a few years, and lives hardly five years at most, the canary is vigorous for a much longer period and may attain the age of 15 or even 20 years.

When we see that cold-blooded vertebrates, such as turtles and crocodiles attain a very advanced age without showing any extensive signs of senility we are tempted to ascribe this fact to the rather inactive life of those animals. As they do not need to maintain a high bodily temperature, they take but little food and are not forced to expend much energy in procuring it. Birds have none of these advantages. They lead a very active and agitated life; in order to preserve their normal condition they must maintain a higher bodily temperature than is necessary for mammals, yet they

attain a greater and more active old age than do mammals, even including man.

Notwithstanding the great difference between the life of birds on the one hand and that of turtles and crocodiles on the other, these animals have this point in common, that in them the large intestine is very slightly developed, if not absent, and their intestinal flora is extremely scanty.

In spite of the imperfect state of our knowledge at the present time, the mass of facts we have cited may well justify us in maintaining the hypothesis that the intestinal microbes play the part of one of the preponderant causes of that chronic malady, our old age.

Since science has already found very efficacious means both for protecting the organism against infectious maladies and for curing such maladies when they are not too far advanced, why should not one seek for something to render old age less painful, it also being a state which should be considered as having a microbial origin?

If, as seems more and more probable, the source of our early decay is found in our intestinal flora we ought to seek some means either for eliminating it more or less completely or for modifying it profoundly. The idea of suppressing the large intestine, that useless part of our digestive tube that we have inherited from our animal progenitors and that serves as the principal reservoir for noxious microbes, cannot be considered seriously. It is evident that we can not count upon the extirpation or even upon the surgical exclusion of the large intestine. In the cases in which this operation becomes unavoidable we find that the organism tends to form a second large intestine. We have under observation at the present time a young woman in whom the suppression of the greater part of this organ, made nearly a year ago, has by no means suppressed the disadvantages due to intestinal microbes. It even seems that there is produced at the expense of the remaining portion of the large intestine a pocket which collects the alimentary waste and nourishes a multitude of microbes.

In the present state of our knowledge we are inclined rather to consider the question of modifying our intestinal flora. There is now present in it many injurious microbes. It is only necessary to have some lesion in the intestinal wall that allows these to escape into the peritoneum to set up an infectious disease of the gravest character.

The microbes capable of inducing putrefaction are among the most dangerous. Now, these microbes have bitter enemies in other microbes, especially in those that set up the fermentation of sugars and produce lactic acid. Are there no means of acclimatizing such microbes within our digestive tube in order to combat with their aid intestinal putrefaction?

Bacteriological researches have shown that many microbes, even when taken in very large quantities, perish in the intestines of man and of animals. Thus, for example, the vibrio of cholera, that dread agent of Asiatic cholera, has many times been swallowed with impunity by various persons. Its destruction was so complete that it was impossible to find it

again in the alimentary waste. Schutz introduced directly into the small intestine of dogs a quantity of vibrios which he saw soon after had disappeared. The same phenomena were observed in chickens, the microbes being destroyed in their digestive tubes.

In every attempt at a modification of the intestinal flora it is, then, necessary to find out whether a given microbe is really capable of living in the intestines. For certain lactic microbes this fact has been established by experiment. In curdled milk prepared by a ferment of Bulgarian origin, placed at our disposal by Prof. Massol, at Geneva, there is found a large bacillus remarkable for its ability to produce a great amount of lactic acid. The bacillus, when swallowed by man, does not suffer the fate of the vibrios which we have mentioned. It is not destroyed in the intestines, but passes through alive. Its presence has been demonstrated by Dr. Cohendy even many days after its introduction by the mouth. Here, then, is a microbe not normally present in our intestinal flora which may be implanted there artificially, either with curdled milk or under the form of a pure culture; endowed with great power of producing fermentation, it will be capable of effectively combating intestinal putrefactions.

It is interesting to note that this microbe is found in the sour milk consumed in large quantities by the Bulgarians in a region famous for the longevity of its inhabitants.

We have, then, reasons to suppose that the introduction of this Bulgarian clotted milk into our diet may counteract, or at least diminish, the injurious effect of the intestinal flora. This would be the first example of artificial modification of that flora.

To sow useful microbes within our digestive tube is not sufficient. It is also necessary to prevent the introduction of injurious ones. With this end in view we should avoid, as much as possible, uncooked foods that serve as vehicles for all sorts of microbes. In spite of the washing vegetables and fruits, such as salads, radishes, strawberries, cherries, and others, they are yet contaminated with dust, soil, manure, and fecal matters. Now, these often contain injurious microbes and eggs of animal parasites. Dr. Bienstock found in the earth of his strawberry beds tetanic spores, which he found would be destroyed in his own digestive tube when a little of that earth was swallowed. But we must not count too much on the antignerobic power of our intestines, and it is much more prudent not to use these vegetables and fruits until they are cooked—that is to say, until after the destruction of all or a large part of the microbes that they contain. This measure, together with the use of water that has been boiled, will prevent, once for all, the penetration into our body of wild microbes whose injurious effects can not be denied.

Thanks to the means we have just outlined, as well as to others which we may add thereto later on, we may in the future transform our intestinal flora, now so varied and uncultivated, into a flora of much fewer species exempt from injurious microbes but containing useful ones—in a word, into a cultivated flora.

But independently of this prospect, it is possible to avoid the disadvantages of our present intestinal flora by specific serums, prepared with a view to neutralizing the injurious action of certain microbic poisons and of destroying the microbes themselves.

As according to our hypothesis, these microbes act upon our organism by weakening our noble elements and stimulating their adversaries, the macrophages, it will be rational to seek the means for reinforcing the former. The weakening of the latter can not be considered for the moment, as the macrophages are of great use to us in the struggle against several infectious diseases, and notably against the most terrible of all, tuberculosis.

The idea of reinforcing our noble elements is based upon the study of certain poisons called cytotoxines. Not being able to enter into the details of this question we will content ourselves with remarking that, while strong doses of these poisons destroy our cells, minute doses, on the contrary, reinforce them. We should, then, attempt to assist our noble elements in their struggle against the macrophages by the aid of cytotoxines. This problem is complex and delicate, and requires numerous preliminary researches of long duration. These were begun a year ago. At this time the question is not sufficiently mature for any kind of discussion.

The theory of old age and the hypotheses which are connected with it may be summarized in a few words, the senile degeneration of our organism is entirely similar to the lesions induced by certain maladies of a microbic origin. Old age, then, is an infectious chronic disease which is manifested by a degeneration, or an enfeebling of the noble elements, and by the excessive activity of the macrophages. These modifications cause a disturbance of the equilibrium of the cells composing our body and set up a struggle within our organism which ends in a precocious aging and in premature death contrary to nature.

It is very probable that during the time we are growing old the intestinal microbes that have set up within our body permanent factories for different poisons play a very important part. It is, then, entirely possible to struggle against premature senility by modifying our intestinal flora and by reinforcing our noble elements, so sensitive to microbic poisons.

But, you may say, all this is theoretical. It may be scientific, but it has not been proven. You may ask me to speak to you of our present established knowledge concerning old age, of what modern medicine proposes to do in the way of remedying this unenviable condition. This question has for a long time been under consideration, and I will now give you the last utterance of empiric wisdom. A much-esteemed physician of London, Dr. Weber, who is himself very old, has quite recently summarized the means that he used to make his own age supportable and to ameliorate that of his numerous clients.

These are the rules that he drew up for this purpose: "All the organs must be preserved in a state of vigor. Morbid tendencies, whether here-

etary or acquired during life, must be recognized and combated. Moderation must be used in the consumption of food and drink as well as in the pursuit of other corporeal pleasures. The air within and about the dwelling must be pure. Corporeal exercise must be taken daily in all conditions of weather. In many cases it is also necessary to take respiratory exercises as well as to walk and climb. One must retire early and rise early. Sleep should be limited to six or seven hours. Every day a bath should be taken or the body be well rubbed. The water employed for this may be cold or warm according to individual temperament. Sometimes warm and cold water may be alternately employed. Regular work and intellectual occupation are indispensable. The mental attitude should be that of enjoyment of living, tranquility of mind, and a hopeful conception of life. On the other hand, the passions and nervous disturbances of sorrow should be combated. Finally, one should have a firm determination that will compel the preservation of health, the avoidance of alcoholic liquors and other stimulants as well as narcotics and anæsthetic substances."

These counsels are certainly very useful to follow, but very frequently they are insufficient for the attainment of normal old age. Many very sober persons, not addicted to alcoholism nor any other excess, contract chronic maladies of the kidneys, of the blood vessels, of the digestive organs, and of the nervous system which result in premature and most painful old age.

Empirical rules, even when dictated by the widest experience, can not, then, suffice to solve the problem, and we must seek the aid of science in order to obtain an effective result. The scientific study of old age is therefore indispensable. In order to make this study possible, we must, first of all, have material upon which to work, that is to say, old people, and indeed, many old people. The opinion that old people are merely a burden upon society, which ought to support them simply because of our moral laws, is certainly erroneous.

Not only do the young, but many older persons share the opinion that old people incapable of work are no longer good for anything. Some ten years ago a celebrated German physiologist, who had reached a great age, told me how he felt because of his uselessness to society, and added: "What can one do? I can not decide to kill myself." Well, now that science has taken up seriously the study of the problem of old age, old people have become very useful subjects, especially so for the young, who may be able to profit by the results of these studies. If we should make way with the aged, as certain savage tribes still do, old age could never be modified nor ameliorated. If we should make way with the sick, as was formerly done, and as is still done among certain tribes, we should never discover any means for curing diseases. If we had killed diphtheritics under the pretext that the greater part of them were going to die and that they were a source of danger to their healthy neighbors, we should never have discovered the serum which now cures them.

Old people, even in their condition of decrepitude, may be very useful, on condition that scientists can be found who will undertake the task of carefully studying them. There is also a certain consolation in the thought that when we ourselves have become incapable of studying old age we may serve as subjects of study to other observers. In any case, it is to be hoped that in the future, which is, without doubt, somewhat distant as yet, old age may cease to be one of the greatest misfortunes of humanity, and that this chronic disease may yield to the ever-increasing progress of exact science. - *Scientific American Supplement*, November 11, 1905.

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বটকুঞ্চ পাল এণ্ড কোং,

১২ নং বম্ফর্ডস্‌ লেন, কলিকাতা।

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HOMŒOPATHY IN THE CALCUTTA UNIVERSITY.

At a meeting of the Senate held on the 7th March, we read :

"A rather interesting discussion ensued over the proposal relating to a declaration to be signed by each recipient of the degree of M.B.

Sir Gurudas Banerjee questioned the necessity of introducing a declaration where the recipient was to give an undertaking not to advertise or employ any other unbecoming method of obtaining practice, or allow his name to be connected with any one who so acted or who was engaged in any discreditable kind of medical work. Sir Gurudas pointed out that the regulations already provided a condition that none but persons of good moral character and respectability were to be admitted into the profession. To introduce such a declaration now was not only unnecessary, but served to cast a slur on recipients of the degree, inasmuch as it went to show that these recipients were not what they were represented to be. Colonel Harris observed that he was not quite keen as to the adoption of this measure which he agreed was unnecessary ; but he took exception to the term 'slur' used by Sir Gurudas Banerjee. This was in vogue in England, and he himself had signed such a declaration. He did not think any harm was done by signing such a declaration.

In his closing remarks, Sir Gurudas drew attention to the fact that the terms of the proposed declaration were actually

included in the charge pronounced at the Convocation proceedings and so he questioned whether that charge was now to lose its effect.

Father Lafont here raised a point in connection with the wording in the concluding portion of the proposed declaration. Expressions such as 'unbecoming methods' and 'discreditable kind of medical work', might mean to prevent those desirous of practising Homœopathy and other modes of recognised treatment. From his own personal experience, he was quite prepared to show that Homœopathy was far in advance of the times.

Colonel Lukis observed that what was meant by the expressions referred to was quackery and such like practices.

In response to further remarks from Father Lafont, Colonel Lukis said that Homœopathy was not considered by any Doctor to be a discreditable kind of medical work.

After some further discussion, the proposal to transfer this form of declaration to the body of the regulations was rejected".

Such is the grand episode to stifle other systems of medical practice, besides Allopathy which are in vogue in India. The best part of the conversation is the practical recognition of homœopathy by Colonel Lukis who considered it not to be a discreditable kind of medical work. He could not confess that to practise homœopathy is a creditable work. We hope the confession will come later on.

In 1878 Dr. Mahendra Lal Sircar was elected a member of the Faculty of Medicine of the Calcutta University. His election gave a shock to the cultivated senses of the Old School. All the members of the faculty except Dr. McLeod resigned. They could not tolerate then the name of homœopathy without showing the signs of rage and horror. It should be said that some of the veteran Old School men were secretly practising homœopathy at that time.

There is now hope for these recalcitrant men. They are gradually coming to the side of light. The acknowledgment has another novel aspect. It is the unguarded confession of a Protestant sinner before a Catholic Father of lead and light.

This is certainly creditable to Dr. Lukis. We do not know in what manner his words will be received by his colleagues. We heartily thank Father Lafont for his able advocacy of homœopathy in the Senate.

SANITATION OF CALCUTTA.

II.

During the collapse of the Lottery Committee, another effort became necessary to improve the sanitary arrangements of Calcutta. It was not, however, till 1835 that a regular movement was started in that behalf. In April of that year Mr. (afterwards Sir) James Randal Martin addressed a letter to the Governors of the Native Hospital for establishing a fever Hospital for the town. He sent his "Note on the Medical Topography of Calcutta and its suburbs, chiefly with reference to the condition of the native health" on the 24th February 1834 pointing out what he called the worse than Batavian condition of the city. The Governors took up the subject and met to consider it on the 20th May 1835. At this meeting Mr. Martin submitted a further explanatory note. Other corroborative statements were forwarded by Dr. Vos, the Police Surgeon, and Mr. Bramley. A joint note, the production of Dr. Jackson and Babu Ramcomul Sen, was also sent. The Governors accepted the suggestions and formed a Sub-Committee consisting of Sir Edward Ryan, the Lord Bishop of Calcutta, Sir J. P. Grant, C. W. Smith Esq, Chairman, Babu Ramcomul Sen, Babu Raj Chunder Dass, Babu Radhakanto Deb, S. Nicolson Esq., J. R. Martin Esq., and Dr. A. R. Jackson.

On 1st June 1835, agreeably to their resolution the Committee sent Mr. Martin's paper to Sir C. T. Metcalfe. Mr. Martin's paper was printed and circulated among the Magistrates of the town and suburbs. The paper contained the following causes of the bad sanitary condition of the town :—

1. Overcrowded population.
2. Ill-ventilated houses.

3. Ill-ventilated and ill-paved streets.
4. Imperfect drainage and sewerage.
5. Supply of bad drinking water.
6. Filthy, ill-paved and ill-ventilated markets.
7. Ill-arranged condition of public tatties.
8. Bad state of the native burying grounds.
9. Neglected state of the suburbs.
10. Bad flow of drains on account of heaping of earth on the banks of the canal, the natural outlet.
11. Vicinity of rice cultivation.
12. Existence of low jungles.
13. Great immorality of the natives—Polygamy.
14. Institution of caste.
15. Sedentary and indolent habits of the natives.
16. Their defective diet, clothing, bedding, etc.
17. Ignorance of native medical practitioners.
18. Misuse of cold baths in impairing health, especially during cold season.
19. Neglect of vaccination.
20. Want of hospitals.
21. Defective education and physical management of children.

It is necessary to mention that want of comparatively good potable water was then keenly felt. Nobin Sing's garden tank was said to contain rather wholesome water in the native portion of the town. That for the European quarter was supplied by Laldighee (Dalhousie Square) and one or two tanks of the Esplanade.

On the 18th June the sub-committee convened a public meeting in the Town Hall, presided over by C. W. Smith, Esq., to consider the formation of a Fever Hospital. At this meeting Radhamadhub Banerjee, Russomoy Dutt, Rustomjee Cowasjee, Aga Kurbolai Mahomed, Mathooranath Mullick, Raja Rajnarain Roy, Mahomed Mahedy Muskey, Muttylal Seal, Bissonath Muttylall, and Dwarkanath Tagore were made members of the Committee. On the 12th August a second public meeting was held. They raised about fifty thousand rupees.

We refer to the details of the Fever Hospital Committee, because this was the first occasion when Europeans and Indians combined to collect subscriptions for a public cause and the first time when a regular investigation was made into the sanitary condition of the town and its suburbs. On the 30 April, Mr. Martin addressed a letter to Lord Auckland, enclosing the proceedings of the Committee. On the 24th May his lordship acknowledged the communication, approving of the suggestion to establish a hospital with dispensaries attached and the extension of medical education.

In a further communication on the 21st June, he recommended the formation of a more general committee to take into consideration—(1) the establishment of a medical hospital, the native hospital remaining for surgical cases, and the attachment of a dispensary; (2) the sanitary state of Calcutta and to suggest local improvements for the purpose of producing and maintaining greater salubrity, and the forming of a plan of local management and taxation. The enlarged committee consisted of Sir E. Ryan, Sir J. P. Grant, Christopher Webb Smith, Esq., Chairman, Babu Ramcomul Sen, S. Nicolson, Esq., J. R. Martin, Esq., Dr. A. R. Jackson, Rustomjee Cowasjee, Esq., Dwarkanath Tagore, Esq., Russomoy Dutt, Esq., H. H. Cockerell, Esq., and Alexander Rogers, Esq.

There were also on the Committee Babu Raj Chunder Das who died in 1836, the Lord Bishop and Babu Radhakant Deb. On Mr. Roger's going home, Mr. R. S. Thomson was appointed in his place, while Babu Prosonnocomar Tagore succeeded Babu Ramcomul sen resigned. The name of Mr. J. Young was added to the lists. Dr. Jackson went to Europe on the 3rd February 1838, and on the 7th August 1839 Mr. Cockerell died. On Mr. Smith's proceeding to the Cape, Sir J. P. Grant was appointed Chairman. The Secretaries were successively G. J. Gordon, Esq., W. C. Hurry, Esq., and Babu Russomoy Dutt. After five years, 1835 to 1839, the Committee submitted their final report to Government. Containing a mass of testimony from medical and lay men, that report is an evidence of

arduous labour. To help the effort of the Committee the Rev. Alexander Duff gave two lectures on the sanitary condition of Calcutta.

On the 19th November 1836, two members, Sir John Grant and Mr. Rustomjee Cowasjee, sent in their inspection report, from which we make the following extract :

"We have passed through the greater part of the Roads and Lanes in the Native parts of the Town, bounded by Lall Bazar, Clive Street Mutchooa Bazar and College Street, Setting out from Tank square we passed through Old China Bazar, passed the Armenian Church up to Burrabazar, through all the windings of which we passed as far as the Mint, from thence to the Portuguese Church, Moorgheehatah, along the Chitpore Road to Mutchooa Bazar, and back through Colootola Road. Through several of the Lanes and Alleys we could not pass, the same not being wide enough for the admission of any wheeled carriage or cart. The whole of this space with the exception of some places near College street, is most thickly inhabited, the houses and shops adjoin; and though not lofty are sufficiently high to exclude sun and air; the free circulation of the latter of which is effectually prevented by the extreme narrowness, sharp angles, and perpetual tortuosities of the streets, few streets being more than a quarter of a mile in length in the same direction, and many not so much; none of the Streets, except those to be presently mentioned, much exceeding twelve feet between the front walls of the opposite houses, many being much narrower; and of this space from one foot, to one and a half foot in width, being occupied by a kennel on each side. These kennels are apparently two or two and a half feet deep, with brick sides, the bottoms filled with perfectly stagnant water and filth; and the tops covered, at distances of from one foot to two feet and two and a half apart, with buildings from six to ten feet in length, which in few places are the entrances to houses; but which in all other instances are the supports of the platforms used as shops; which platforms are erected immediately over the kennel, from one foot to three feet above it, the space between the bridge and the platform being closed to the front, so that no part of the kennel is accessible for the purpose of cleansing it but the above mentioned intervals of one, two, or two and a half feet in length, at various distances, of not less than six or more than ten

feet from each other ; while the whole stench freely escapes into the streets and houses "

The mortality of the time can be guessed from the evidence of Pundit Madoosoodun Gupto Koberuttan. We retain the spelling of the reports to show what improvement has been effected in this direction under the impulse given by Sir W. W. Hunter. Pundit, Goopta states that the "fevers are the most prevalent diseases ; bilious, remittent and intermittent ; that enlargement of the spleen is the general termination of the two last descriptions of fevers ; that diarrhoea, dysentery, dyspepsia, rheumatism and venereal disease are the most prevalent diseases in the town, among the Native population." The Committee, after full consideration of the various matters of cleansing, drainage, watersupply, ventilation and the fever hospital, sent in their report, dated Tuesday the 7th January 1840, signed by J. P. Grant (Chairman), C. W. Smith, J. Young, J. R. Martin, Prosouno coomar Tagore, R. Scott Thompson, Dwarka Nath Tagore, Rustomjee Cowasjee and Russomoy Dutt. It is a volume of 245 pages, quarto, the concluding paragraph of which runs thus :

"It is no small satisfaction to your Committee, that the main objects contemplated for the improvement of the Town by this accomplished statesman (Marquis of Wellesley), six and thirty years ago, as then demanding the immediate attention of the Government of this country, have been brought to your Honour's notice as forming part of the various subjects of this their report, and they entertain no doubt that your Honour will agree with him in his opinion, that the state of the Capital of the British Empire in India claims that the Government should bestow upon it its prompt and serious attention as constituting one of its primary duties, and that among these duties is included that of contributing, in a just proportion, to the expense, which may be requisite to render it a healthy and convenient residence for those in health,—to provide it with ample, well-endowed, and well-regulated Hospitals for the sick, and the poor—and to bestow upon it generally that degree of order, symmetry, and magnificence in its Streets, Ghats, Wharfs, and Public Buildings, which may not only tend to meliorate the climate

and to secure and promote the objects of a just and salutary system of Police,' but may give to it, in all respects, the character befitting the station, which it ought to hold among the Cities of the world."

COMMON DISEASES AND THEIR TREATMENT.

(Continued, from December 1905, p. 494).

Rhus radicans is the Poison Ivy, and *Rhus toxicodendron* is the Poison Oak.

The two poisons have been included in one proving by Hahnemann. Clarke says: "Under the name *Rhus* Hahnemann published his proving of '*R. radicans*, also called *Toxicodendron*.' Botanists agree in recognising no distinction other than that of habit between the two. Millsbaugh (American Medicinal Plants) tells in his masterly account of the plant that he has seen the two varieties springing from the same root stock. He advises that the tincture should be made from specimens of both." Hempel and Arndt, quote Professor Bigelow's statement. "Among the plants which grow abundantly around Boston, I have frequently observed individual shoots from the same stalk having the character of both varieties." It can be said that the difference in the botanical character of the two off-shoots though coming from the same root shows their distinctive appearance. For precision, the two tinctures and their provings should be differentiated.

The same authorities support that view. They say: "The poison of *rhus radicans* produces effects analogous to those of *rhus toxicodendron*, and provings bring out this similarity still more clearly. It has been customary to use the two remedies interchangeably: although it cannot be denied that a critical study of their respective symptoms permits of differentiation. (*Hahn. Monthly*, August 1869, for a comparative study of *rhus tox*, and *rhus radicans*.)

The effect of *Rhus radicans* has been described by Hempel and Arndt quoting the dissertation of Horsfield which was published in Philadelphia in the year 1798, giving the following effect of the leaves:

"A slight degree of itching or sensation of heat, which gradually increases, followed by redness or inflammation of the skin; in some, very extensive; in others, confined to round circumscribed spots, or to longitudinal streaks. The inflamed parts become elevated and tumefied. Small vesicles appear on the surface, containing a pellucid fluid, which gradually increase in size; the fluid soon becomes yellow, and, after some time, takes on the color and consistence of pus. After the vesications are completely distended, they break, and some of the pus being discharged, by drying on the surface, forms a yellow incrustation, which gradually becomes brown. The itching and vesications which take place in the incipient state, frequently disappear and return several times successively."

The following case of poisoning by *Rhus radicans* has been described by him: "In the summer of 1797, a boy of about twelve years of age, and possessing a very high degree of what is termed the melancholic temperament, was exposed to the action of *rhus radicans*. He was attacked with the following symptoms; redness and swelling of the hands and face followed by fever, unusual drowsiness, thirst, and great constipation; the eruption gradually extended over the whole body, much resembling the progress of inoculated small pox, a swelling and very troublesome itchiness accompanied the eruption through the whole of its course

"One of the most singular, and at the same time one of the most universal, concomitants of the eruption, when it exists in a violent degree, is a sympathetic crethism of the arterial system, and this occurs in a more or less degree in every case. The general symptoms, when this fever comes on, are a quick, frequent, full and tense pulse; loss of appetite and sickness at the stomach; white coated tongue; burning of the palms of the hands and soles of the feet; headache, throbbing of the temporal arteries, and delirium. The eruption is not unfrequently succeeded by a great number of small boils, swelling of the tongue, ulceration of the mouth, and swelling of the lymphatic glands."

The four species of *Rhus* which produce erysipelatous inflammation are *R. diversiloba*, *R. radicans*, *R. toxicodendron*, and *R. venenata*. T. F. Allen in his Hand book of Materia Medica writes for *Rhus tox.*—"A tincture is made of the fresh leaves of the poison ivy."

Taking into consideration the four varieties of *Rhus.*, we observe the following difference with regard to their role in producing inflammation. *R. diversiloba* produces papules on red oedematous base, on forehead and neck, rapidly spreading in all directions, with heat, itching, and burning, but very little pyrexia; itching ameliorated by cold, aggravated by heat, warmth, rubbing or scratching.

Rhus radicans has Tired feeling with great exhaustion; itching and burning, general swelling; first redness and swelling of the affected part, with intolerable itching and burning, followed by vertigo, weariness, and a sort of intoxication; great restlessness, pain, thirst, and fever. Clarke remarks: "The American provings were made with *Rh. rad.*, and the majority of the poisonings have occurred from this plant. Though it is not certain that Hahnemann used *Rh. tox.* at all, or exclusively. Jahr gave a separate presentation of the *Rh. rad.* symptoms." The following is from Jahr: *Inflammation of the hand in consequence of external injury.* Lameness of the knee from contusion. Chronic nocturnal itching of the legs below the knees. *Inflammation of the hand with heat, redness and swelling.* Heat, throbbing, redness and shining of the hands, with swelling and stiffness. *Inflammation of the hand from external injury.* Inflammation of the hand extending from a burn on the fingers. Swelling of the hand in the afternoon, worse from holding the reins and riding in the sun. Hard tubercular and itching eruption on the dorsum of the right hand, between the thumb and first metacarpal bone.

Rhus toxicodendron. Jahr writes: Bony swelling on the arm with burning and ichorous ulcers. Pain as if sprained in the joints. Swelling of the feet, painless when touched. It will be seen that in ordinary inflammation *R. radicans* is more useful than *R. tox.*

The combined symptoms of *R. radicans* and *R. tox.* are described as follows: *soreness in every muscle better from exercise; can be only on back at night; restlessness, at night; stiffness of sacrum, and extremities* (Caust., Lyco.); *sprained pain in foot in morning on rising*. Allen remarks: Valuable for effects of strains on muscles, especially from lifting or from working in water." The supposition is that better effect can be produced in muscular strains by the use of *R. radicans* than that of *R. toxicodendron*. It would be reasonable to depend both on *Rhus t.* and *Ruta* for sprains and strains. Muscular pain from strain has been cured by *Rhus*.

Rhus venenata or Poison Elder, Poison Sumach, is said to be "one of the most actively poisonous of Rhoes P. B. Hoyt, who (according to Hale) first drew attention to it, and made the first provings, says it is more poisonous than *Rh. t.*, which he can handle with impunity, while he was violently affected by *Rh. v.*, in spite of extreme caution." The above remarks are from Clarke. The following symptoms have been recorded. Swelling of all the limbs with redness and thirst; bruised feeling in all the limbs; sensation as though hot blood was rushing along the vessels.

It is not possible at this stage of our knowledge to mark out the respective sphere of action of the four *Rhus*. It seems that *Rhus venenata* has more violent action than the other three, and it is applicable, therefore, in diffused inflammations. The following case is from Clarke: "Hale records a case bearing on the comparative action of *Rh. v.* with *Rh. r.* and *Rh. t.*: A lady had several times every year a sore mouth, with intense redness of mucous membrane of tongue, cheeks, and fauces in small vesicular points; intense burning and feeling as if mouth and throat had been scalded. If unchecked every mucous membrane including those of rectum and vagina became involved. No remedy helped till *Rhus* was tried. *Rh. r.* and *Rh. t.* only slightly relieved, but *Rh. v.* 3 always removed the affection quickly."

It may be said that there was success in that case, but it does not follow that every case would prove the comparative usefulness

of *Rhus venenata*. In a case of ecchyma in our practice *Rh. v.* failed and *Rh. t.* succeeded.

Rhus tox. has cured many cases of sprains. The following case from Hoyne is interesting :

“ *Rhus tox.* cured a painful swelling in the popliteal space of one limb, occasioned by a cold, preventing the extension of the leg. Dr. P. Miller.” In our practice a case of large iliac abscess was cured by *Rhus tox.*, on the failure of *Mercurius*, *Belladonna*, and several other medicines. The keynote was the occurrence of the fever and abscess after taking a prolonged bath.

Ruta has bruised pain in all parts on which he lies (Arn., Cic., Dios.); on touch of painful parts, worse in hips and bones of legs : restlessness, so he does not know where to lay his legs, with heaviness (*Rhus t.*) ; weakness, with bruised feeling in limbs, and pain in sacrum and loins, bruised pain in joints and hip bones so that he can not bend ; tearing in wrist worse from violent motion ; pain in wrist as if broken ; bruised pain in bones of wrist and backs of hands ; he can not walk at first on rising from a seat, he falls back again ; bones seem broken, thighs refuse their service on account of weakness and pain, bruised pain on stretching lower limbs, posteriorly above knee, in bones about hips, on anterior surface with pain on touch ; legs give out on ascending and descending stairs ; pain consisting of throbbing and hacking as in an ulcer, anteriorly on ankle ; pain in bones of feet so that he can not step heavily with heat ; burning and biting in bones of feet during rest ; inflammation with swelling of hands ; pains in limbs, joints and bones as if beaten, or after a blow or fall ; acts specially on yellow elastic tissue ; pain in spine as if beaten and like lumbago (Arn) ; bruised pain extending along back, in spine when sitting and walking arresting breath ; bruised pain in vertebrae. Clarke remarks : “ The vulnery remedies indicate in symptoms of their provings the peculiar form of injuries for which they are adapted ; there are the sprained pains of *Rhus* the bruised pains (in skin and muscles) of Arn. *Ruta* also has bruised pains, but these are more particularly manifested in bones. *Ruta* is one of the chief remedies for injured bones and especially

bruised bones. This power of *Ruta* does not appear to have been known before the provings were made." The peculiar sensations of *Ruta* are, spine as if beaten and lame, head as if bruised or beaten; as if pain were in marrow of bone, or as if bone were broken, wrists as if sprained; thighs as if beaten and weak; as if there were an ulcer on ankle; the bruised sensations in bone, joint, periosteum and cartilage are worse at night; restlessness; the pains aggravate from cold application and weather.

Allen says: "General feeling of soreness as from a bruise. General lameness after sprains, especially of wrists and ankles. Periostitis, the result of bruises—Pains, especially in the wrist, in cold wet weather, better from motion (Rh. t.)." The pains so peculiar to *Ruta* seem to be of subacute character and affect all tissues. They may happen either from cold, sprain, severe exertion and labour which produce inordinate fatigue. The province of application of *Ruta* is quite distinct from that of *Rhus*. The pain of *Rhus* is generally acute whereas *Ruta* indicates subacute inflammation. There is more erysipelatous character in *Rhus* than in *Ruta*.

Hoyne points out the following facts: "Dr. Bayes used *Ruta* with benefit for a lancing pain in the tendo Achillis, which remained after a boil in that region. A man, on getting out of car, slipped and bruised 'shin' injuring bone; affected part became red, swollen and painful; there were present flushes of heat, anxiety and dejection. *Arnica* produced no relief. *Ruta* 12 produced immediate improvement and complete cure. Dr. G. M. Ockford."

To be continued.

EDITOR'S NOTES.

Ammonium Benzoicum.

The *Joya Homœopathica*. Barcelona has the following :

"Like other ammonia preparations, it acts upon the mucosæ, producing inflammation which begins as a simple excoriation proceeding to epithelial destruction, and ulceration with heat. Its action is most marked upon renal and hepatic mucosæ and it alters profoundly the circulation in these organs. *Indications*: In post-scarlatinal dropsy with scanty and bloody urine, dark red and containing a great quantity of albumen. Cirrhosis with hepatic obstruction giving rise to ascites and jaundice. Incontinence of urine. Also in gout and chronic rheumatism. Dilutions 6 to 30."

A Bryonia Case.

The North American Journal of Homœopathy for February supplies the following from the *Homœopathische Monatsblätter*

"Case. S—, a robust laundress, unable to work for 3 weeks, sought my advice Sept. 1, 1815. The diseased syndrome was as follows.

1. Sticking pains in the pit of the stomach with every motion, at every step, especially from a mis-step, the pain is, according to her story, always on the left side.

2. When lying down she has no pain, neither in the side nor in the stomach-pit.

3. Cannot sleep after 3 A. M.

4. Food is palatable, but after eating a little, she feels like vomiting.

5. Profuse salivation, running out of the mouth.

6. Frequent eructation after each meal.

7. Hasty temper, easily angered—when the pains are violent, she breaks out into sweat. Catamenia normal, 2 weeks ago. Health otherwise unimpaired.

As regards symptom No 1, belladonna, china and ihus tox. have the sticking pain but not on motion only as here. Pulsatilla has them from mis-step but less often, and has not the digestive symptom of No. 1 (Cf. Nos. 5, 6) nor the same temperament.

Bryonia alone has pain on motion, particularly sticking pain, and also sticking pain (in the stomach-pit) under the sternum on raising the arm); a mis-step will also cause the sticking pains in other places.

The negative symptom; No. 2, is peculiar to *bryonia*; few other remedies, excepting perhaps *nux vomica* and *rhustox*. (which do not suit the other symptoms here) have cessation of pain when at rest or lying down, but is markedly characteristic of *bryonia*.

Symptom 3 is common to several drugs and to *bryonia*.

Symptom 4—desire to vomit after eating—is found in a number of drugs. *Ignatia*, *nux vomica*, *mercurius*, *ferrum*, *belladonna*, *pulsatilla*, *cantharis*, but in part, not so persistently and commonly; in fact, not with the previous palatability of food, as in *bryonia*.

In regard to symptom 5, other drugs have increase of saliva, but not with the present accompanying symptoms. Hence, *bryonia* is preferable.

Empty eructations after eating (No. 6) is not common to many drugs and in none so constant, usual, and marked as in *bryonia*.

Symptom 7 A leading index in disease (*Organon*, sec 210) is the temperament or disposition and this symptom is a characteristic of *bryonia*. The complete syndrome of the case leads to *bryonia* as the homœopathic remedy.

As the woman was very robust, her vitality unimpaired, and since therefore the disease-dynamid must be most powerful that should cause her, because of pain, to abstain from all work, I prescribed for her one of the strongest homœopathic doses, a full drop of the tincture of *bryonia*, and told her to call again in 48 hours. I told my friend, E. who was present, that the woman would be completely relieved within that time. He, however, but half way towards homœopathy, had his doubts.

Two days later he came in to witness results, but the patient did not appear then nor afterwards. I told my impatient friend to visit her giving the address, which he did. His inquiries were greeted with. "Why should I come again? I was cured the same day, and went to work. I'm obliged to the doctor, but we folks have no time to leave off work, and I had been laid up already for three weeks."

In this case the characteristic symptoms were the sticking pains in the pit of the stomach aggravated from motion. *Bryonia* has, sensation of stone in stomach with pain in the epigastric region on touch; pain in epigastric region on pressure. The pain aggravates

from motion, drinking wine and water and on coughing. *Belladonna* points to shooting cutting in pit, forcing him to bend backward and hold his breath. *China* indicates soreness in pit with pain as from pressure on a sore place and pressure after eating a little. From these characteristic indications it will be seen that *Bryonia* was the remedy and it served the purpose.

•Road-dust and Pneumonia.

The *Public Health* of February remarks :

"Prof. Thomas Oliver, of Newcastle-on-Tyne, delivering the first of the annual Haffen lectures, spoke of the dangers from germs which might linger in dusty atmospheres. Since the introduction of wood-paving, he remarked, many complaints had been heard of the irritating effect of the dust on the throat and eyes, and it was a question as to how far this might not be responsible for the large number of cases of pneumonia in England during the last summer. The dust-raising propensities of motor-cars, too, had created a condition of affairs which, if unattended to, might be followed by consequences prejudicial not only to the individual, but to the climate of our country. The dust that was raised by wheel traffic carried into the atmosphere germs of every description, and they often remained in suspension for a considerable period. The presence of dust and smoke in the atmosphere often assisted in the formation of fogs and mist, and some authorities asserted that our country received less sunshine nowadays than was the case years ago, when the atmosphere was clearer."

We believe in the bad effects of wood-paving. The street-dusts throwing the pathogenic germs in the atmosphere create the mischief of spreading infection. The costly wood-paving has the same danger which can be found in an ordinary macadamized road. The alleviation of the mischief is possible by thoroughly oiling or watering the streets. The recent introduction of wood-paving in Calcutta is condemnable not only for the increased cost but also for the danger of manufacturing pathogenic germs in its cracks and fissures.

Pathological Gluttony.

The *Lancet*, February 3, records the following curious instances of depraved appetite.

"The literature of depraved appetites is considerable and is discussed at some length in Gould and Pyle's "Anomalies and Curiosities of Medicine" Morbid appetite most commonly manifests itself in the tendency to eat filthy or loathsome food, and this tendency again is allied to fetish worship. Many savages, for instance, consume their own excrements and assign ritual or religious reasons for this act. The human urine and feces are by them regarded as containing the soul, and to devour them is to become repossessed of a sacred trust. That form of savage cannibalism which enjoins the eating of kinsmen and parents is based on the same grounds of reasoning. It is a question, however, whether cannibalistic and ordure-eating savages do not really derive their instincts from the lower animals. Dogs have notoriously depraved appetites. Some famous gluttons have certainly seemed to be casts-back to the lower carnivora. Such was "the Great Eater of Kent," affectionately eulogised by Taylor, the Water-Poet. This Man of Kent was seen by Taylor to make a meal of a whole calf. He was admired in his day as a supreme instance of a jolly fellow, but his foats were such as to suggest the morbid and abnormal. Tarrare, a Frenchman, who died at Versailles, aged 26 years, during the latter half of the eighteenth century, was perhaps the most prodigious and revolting of those instances of what might be called pathological gluttony. He ate "a quarter of beef in 24 hours," and could quickly assimilate large serpents. Lorenze saw him devour a cat, the hairs of which he voided after an interval of half an hour, much as a bird of prey might do. This man was manifestly a reversal to type. Of his family, although less sensational in their cravings, are the earth-eaters, wood-eaters, chalk-, peat-, bog-, insect-, and perhaps even seaweed-eaters, while the chewers and the whittlers may be said to belong to the same morbid category."

The cases cited above show the depraved appetite as well as gluttony. The morbid influence has nothing to do with fetish worship. Fetish worship does not include the consumption of human dejecta. Those who take the loathsome articles do it under the impression of show that they are above all likes and dislikes. On the other hand, those who prefer the rejected things have a morbid likeness for some particular kind of food. Gluttony may be associated with the filthy living. A glutton wants large quantity of anykind of food, good or bad, to satisfy his appetite. In other words, morbid hunger may be a part of voracious craving. But it is not always so. Many women get a depraved desire for earthy substances during their pregnancy. We heard of a Chief Secretary

to the Government of Bengal, abnormally fat who could take during one meal a large duck and a few other things.

The Classification of Mosquitoes.

The *Science* February 9, has the following :

"Recent authors have subdivided the Culicidæ in various ways, although using mainly the same set of characters. It seems, however, that the best and most natural grouping consists in the recognition of three sub-families, as follows :

I. **Anophelinæ.** Defined by the long elliptical compressed thorax ; the palpi are long in both sexes ; the metanotum is without hairs. The larvæ have a short sessile breathing apparatus and are surface feeders, being supplied with fan-shaped tufts on the dorsum, which serve as an attachment to the water film. A ventral brush or rudder is present on the last segment after the first stage. The larvæ live in all kinds of water, from that in hollow trees to the edges of swift streams, depending upon the species in question. They all require a comparatively extended surface, owing to their habits of surface feeding. Contains the genus *Anopheles* and its subdivisions.

II. **Culicinæ.** Defined by the short rounded thorax ; the palpi are generally short in the female, sometimes short in the male also the metanotum is without hairs. The larvæ have a long breathing tube, always longer than wide, and are not surface feeders. A ventral brush or rudder is present on the last segment after the first stage. The larvæ live in permanent or temporary stagnant pools or puddles ; several species are addicted to hollow trees and one lives only in water-worn holes in rocks. A few species are predaceous, feeding exclusively on the larvæ of other species. So far as known, all the species live free in water, although it should be noted that one genus, *Taeniorhynchus*, has defied all attempts at learning its life history by the ordinary methods of dipping in puddles.

Contains the genera *Megarhinus*, *Psorophora*, *Culex*, *Grabhamia*, *Theobaldia*, *Stegomyia*, *Verrallina*, *Aedes*, *Howardina*, *Uranotaenia*, *Deinocerites*, etc.

III. **Sabethinæ.** Defined by the presence of hairs on the metanotum ; the palpi are generally short in both sexes. The larvæ never have the median ventral brush or rudder on the last segment, nor any pecten on the air tube in the species known. The air tube is long. The larvæ live in small bodies of water confined usually in parts of plants, such as the leaves of the pitcher plant, leaves of *Bromeliads*, flower sheaths of *Canna*, coconut shells and cacao husks.

sometimes with surprisingly little water. A majority of the species inhabit the moist tropical regions.

Contains the genera *Sabethes*, *Sabethoides*, *Wyeomyia*, *Dendromyia*, *Joblotia*, *Phoniomyia*, etc."

Mosquitoes have gained an influence on account of their carrying power of micro-organisms. They suck them and the microbes undergo a fresh cultivation within them. The research on mosquitoes is no doubt an interesting study, but to attach unusual importance for this reason is not reasonable. The several varieties of fleas and flies have also the same power of propagation.

The Sabadilla Sneeze.

We take from the *North American Journal of Homeopathy*, February, the following note:

"In a study of *sabadilla* in catarrh of the upper air passages, Dr. Keruler in the *Allgemeine Homöopathische Zeitung* says: The powdered *sabadilla* seeds or a salve (1 part of the powder, 10 parts lard) are used for lice. The seed contains an alkaloid, *veratrin*, which is very irritating to mucosæ and provokes violent sneezing, hoarseness, cough, great thirst, salivation and itching in the mouth. In the provings we find: Violent sneezing; an intermittent, sharp, short, single sneeze shaking the abdomen, followed by lachrymation with sticking, drawing supraorbital headache, red eye-lid margins as in a coryza, which however, it does not provoke. First one, then the other nostril is stopped,—air may be forcibly exhaled but is difficultly inhaled. Hoarseness, voice tones not clear. Short, dry cough from a tickling, rasping in the throat. Throat feels rough, as if a food morsel had stuck there, causing a cough. Dryness at the naso-pharyngeal junction.

Thus, the action of *sabadilla* upon the mucosæ of nose, pharynx and larynx is well marked.

Case 1. (Dr. J. Gallavardin.) Woman, æt. 56, a coryza for 10 years with considerable nasal secretion and particularly characterized by frequent sneezing, brought on by the slightest irritation, even from washing the face in the morning. If her feet became chilled or if she rolled up her sleeves to the elbow, she sneezed. Tobacco snuff neither increased nor diminished her paroxysms and menthol powder was actionless. *Sabadilla* 6, t. i. d. soon controlled the condition.

Case II. Girl, æt. 4 months. Since birth could not breathe through the nose; nasal mucosa alternately dry and moist, with fre-

quent sneezing. She received sabadilla 3 and chamomilla 3 (diarrhea with nocturnal restlessness) alternated hourly, which brought about speedy amelioration and cessation of the sneezing.

In the obstinate catarrh of the upper air passages, frequent influenza, sabadilla has a marked, often epidemic, action."

It seems that no cases are recorded with regard to the peculiar sneezes of sabadilla Dr. T. F. Allen in his Hand book of Materia Medica remarks, "Influenza, with violent spasmodic sneezing and lachrymation on being in the open air, with symptoms of tonsillitis beginning on left side and extending to right, pains worse on empty swallowing"

CLINICAL RECORD.

Indian.

A CASE OF PTOMAIN POISONING

By Dr. Hem Chandra Ray Chaudhuri, L. M. S.

R.—a young man of 20, residing in Sankaritola East Lane, was attacked with ptomaine poisoning on the 1st August, 1905. probably from taking rotten fish. He took his food at 10 a. m. and went to office. From his office the purging and vomiting began. He was immediately brought home and was placed under the treatment of a lay homoeopathic practitioner, who treated him till the next morning. On the 2nd at 9-45 A. M., I was called to attend him. Pulse was not perceptible in both the wrists. He had passed many green stools, during the day and night. The vomits were also of the same colour. The stools and the vomits of the morning were deep grass green. Delirium collapse and restlessness attended them. *Camphor* every quarter of an hour was given. 10-30 A. M. The stools were less in number but no other improvement followed. *Podo*. 3 dec. after every stool. 1-15 P. M. Green stools mixed with white choleraic mucous shreds. The vomits were entirely green. Difficulty of respiration ensued about this time. *Naja* 3 dec. every half hour. 5. P. M. The difficulty of respiration was in the same state. It had not increased than before. *Naja* was continued. 8. P. M. The difficulty of breathing was rather better. *Naja* was continued during the night.

3rd August. At 7-30 A. M., there was indication of thready pulse in the left wrist. He had eight green stools during the night and no vomiting. *Naja* 3 dec. was continued. He felt very hungry.

Arrow-root water was given. Since the morning of the 1st August he had no food. 3 P. M. Pulse was regularly perceptible in the left wrist, though it was frequent. Thready in the right wrist. Coldness of the nose disappeared though the extremities were slightly cold. No urine since the noon of the 1st August. *Canth.* 6 dec. 4 P. M. Passed a sufficient quantity of urine. *Placebo.*

4th August. Slightly feverish, was delirious during the previous night. Passed urine twice during the night. Temp. 100. F. *Bell* 30. 4-30 P. M. Temp. 100 F. *Bell* 30. Arrow-root water.

5th August. No fever. Had no delirium. Was rather better. *Bell.* 30.

6th August. Was doing well. No complaint except weakness. *Placebo.*

Similar cases of ptomaine poisoning have occurred in many places. The Bhowanipore poisoning cases seemed to be of this nature.

The ice cream poisons are mostly due not to the absorption of copper but to the introduction of ptomaine poisons. The bacillary exudation contaminates foods for being prepared in bad places which were infected by the deposit of rotten fish or flesh, or other kinds of refuse or garbage. In some places, stables forming the manufactory of foods may create the same disaster. At any rate it is plain, that cooking room and utensils should be as clean as possible, being devoid of all suspicion of contamination. The depraved taste of consuming rotten fish or flesh which are openly sold in the markets of Calcutta, is a great factor in producing the poisoning.

The abovementioned case was evidently one of ptomaine poisoning. The peculiarity was the grass green purging and vomiting. The stools were sometimes mixed with shreds of epithelium as in cholera. The predominancy of the green evacuations was the characteristic symptom. *Naja* was administered when other medicines failed, and at a critical moment. The difficulty of respiration pointed out the final dissolution. It was only *Naja* that took the patient away from the jaws of death. The low dilution acted marvellously well.

The difference in other symptoms, except the grass green evacuations, between ptomaine poisoning and cholera can not be appreciated. In severe cases, they tend to the same changes, which lead to the end. The comparison of the pathological aspects of the two diseases makes it clear that in cholera the retention of bile does not bear that significant aspect as is generally ascribed. Clinical consideration places ptomaine poisoning in the same class with cholera, the difference being an excessive secretion of the biliary products.

In both, there is the efflux of intestinal discharge. It can not be said whether the pancreas joins in this morbid effusion, but I suspect that it also plays an important part. Difference in the character of the two poisons exists. In cholera it is a distinct bacillus. On the other hand in ptomaine poison, the secretion of some bacilli or the remanant of a few pathogenic micro-organisms creates the same mischief as in cholera. Great light is thrown in comparing the two diseases from their "clinical" aspects. So far it can be said that bacteriology must be associated with clinical study to convey the true idea of the pathological changes of a disease.

It will not be uninteresting to mention that in some cases of acute dysentery, there is only discharge of white mucus with blood. In other cases, the stools may be green or yellow attended with blood. The difference seems to be the same as in cholera and ptomaine poisoning, except the discharge of blood and the emission of scanty urine. In cholera haemorrhagica, there is profuse evacuation of blood sometimes with shreds of mucus. It is cholera, for all the symptoms taken together. The important conclusion is that the bacilli may differ, but their effects may be the same as far as the clinical aspect goes.

Foreign

CLINICAL CASES.

By J. R. P. LAMBERT, M.D., Assist. Phys. Lond. Hom. Hosp.

CASE 18—Miss. T., age about 50, came under treatment September 8, 1900, having been previously under allopathic treatment. She had been ill two to three years.

Is nervous, gets confused from the least bustle in the street; gets bewildered. Seems unable to do anything, and the attempt exhausts her every much. Memory not very good. Tires easily; is worse out of doors. Cannot go out alone. Sleep fair; was very bad for a time. Flatulence a great deal; least anxiety causes any food to disagree. Sinking in the stomach, at no special time. Bowels constipated, especially if more nervous than usual. Want of energy; cannot read much. *Ign* 3—4hs.

October 6, 1900.—Reported her nerves much better, but flatulence still bad. *Lycop.* 30 t.d.s. This gave great relief.

May 2, 1902.—She complained of "a bald patch" on the scalp and itching. Her hair had been falling off for some time, but she noticed the bald patch only a few days. She still needed to be careful with her food, ~~also~~ gets aching in her back and arms. Occasional sinking

in stomach (worse during morning) and flatulence. Everything a trouble. Tires easily; likes to do things slowly. Bowels regular. Sleep not good; brain keeps working. Heat on vertex. Head itches at night. Feels cold very much. Worse during winter, better in summer, worse in morning. Cold feet and hands. *Sulph* 30 t.d.s.

May 23rd.—Is much better. Patch has not increased, and there are signs of fresh growth. Feels decidedly better in herself. No medicine.

When next seen, a year later, the bald patch was quite covered with hair.

Remarks.—It is not often in my experience that *Sulphur* is indicated in chilly subjects, but it seemed to answer well here, unless it was a *post hoc* result. The action of the other remedies was also satisfactory, but needed following up, but the patient failed to give the opportunity.

CASE 19.—*Silica—Mucous Cyst in cheek.*—Mr. N., student, dark, sallow, consulted me June 13, 1900, for a small globular swelling in the right cheek, deeply seated, freely movable. He had noticed it three months. It was no doubt a mucous cyst. I gave him *Sil.* 6 night and morning, under which it completely disappeared. I have seen a similar result in at least one other case, and many cases of analogous meibomian cysts cured by this medicine.

CASE 20.—*Kali Carb in Proctalgia, Kali Bic. in Bilious Attacks.*—Mr. H., 50, consulted me, April, 7, 1904, for "piles," which he had for four months. He had had a previous attack two years before. He gave the following symptoms: Great pain, shooting, pricking for two hours after stool. It also occurs after long sitting. Sore pain on defecation. Very little itching and no bleeding. Bowels very regular. Some prolapse of bowel on defecation for years. *Ac. nit.* 3 t.d.s.

May 10th.—No better, but some improvement while taking the medicine. Still has great pain, which ceases after stool and recurs half an hour later, and lasts about two hours. He described the pain as "neuralgic," adding, "It seems almost unbearable just before it stops." It comes in paroxysms and better by pressure momentarily. It is shooting in character, with pins-and-needles sensation. Is worse after morning stool but not after evening stool. *Kali c.* 6 t.d.s.

November 29, 1904—He saw me again for bilious headaches, and reported no pain in rectum for some months. I had treated him for bilious attacks on June 9 and September 7, 1903, after which he remained free till three weeks before this date (November 29, 1904).

Kali bic. 30 having been given on each occasion. The note on June 9th gives a description of the attacks; "Bilious attacks all his life more or less. They begin with specks before the eyes and dim vision, then headache accompanied by clearing of the vision. The pain is one-sided and very sharp, over one eye and in temple."

On this occasion *Kali b.* 30 t.d.s. at once helped him.

CASE 21.—*Kali Mur. in Dysmenorrhea*.—Miss A. N., servant, consulted me November 26, 1900, for dysmenorrhea. The period was regular but accompanied by great pain in the hypogastrium on the first day for two to three hours, causing her to bend double. pain cutting and griping, accompanied by coldness and shivering. She has to lie up with it. The pain usually wakes her at 6 a.m., but sometimes at 2 a.m. The pain is worse during heat internally and locally. It comes and goes suddenly. The flow is not profuse, but lasts six to seven days, and is dark, nearly black, with a few clots. Sleep, difficulty in going off and then sound. Dreams very much, of people being killed, funerals, &c. She had suffered from acute dyspepsia shortly before this date, for which she was given *Bry.* 3 with benefit. *Kali mur.* 6x o.n.

December 10, 1900.—Cata passed with no pain at all. Does not dream now. Rheumatic pain in different parts, comes in morning on waking and wears off during the day. Worse during change of weather, easily tired. *Kali phos.* 6 t.d.s.

January 31, 1902.—She complained of dyspeptic symptoms, cutting pain and flatulence immediately after food, better by eructations, griping in umbilical region, better from pressure and warmth. Very drowsy in morning. Frontal headache and heaviness over the eyes; generally gets up with it and it lasts all day. The last two periods have been accompanied by pain again, and the discharge has been dark but not black. *Bry.* 30 t.d.s.

June 20th.—Last period bad again, also the last but two *Kali m.* 6x o.n.

July 29th —After taking medicine a few days the period came a week too soon without pain. The last time was regular but with a good deal of pain in the night.

Remarks.—I am aware the notes of this case are too scanty to be of much value by themselves, but I have had a good many cases where *Kali mur.* has relieved dysmenorrhea with the symptoms mentioned, the most characteristic being the very dark colour of the discharge, and report it as confirmatory evidence (*vide* Case 16, February H. W.).—*Homœopathic World*. March 1, 1906.

TWO CASES ILLUSTRATING THE THERAPEUTIC
VALUE OF PYROGENIUM.

BY DR. BOECKH, OF STUTTGART.

CASE I is that of Rosa K.—, aged 9 years, and whom I have known for the past three years. On Oct. 18th, 1905, she was suddenly attacked with high fever and pain on swallowing. About 18 months previously suffered from an attack of diphtheria, since which time there has been a tendency towards enlarged cervical glands and chronic purulent middle-ear catarrh (left ear), the latter giving rise to an unusually foetid discharge, and the power of hearing having almost entirely disappeared. Beyond this the child appeared well nourished, intelligent, and rosy.

On Oct. 18th, I found her in a state of high fever (temp 40° C., pulse 120) which had come on suddenly. She complained of intense pain on swallowing, which seemed localized in the left side of the neck. The fauces showed merely slight redness but no deposit. On more careful investigation I found that the painful area followed very closely the course of the sterno-cleido-mastoidens from the clavicle to the mastoid process. On enquiry I was informed by the mother that the ear-discharge had diminished very much of late. Superficial examination of the aurial region revealed no pain on pressure over the well-known spots. The child did not complain of earache, but only of a very moderate general headache. I ordered acon. 3 and a compress. On Oct. 19th and 20th the fever remained at the same height, and frequent rigors supervened. The acute pain on swallowing made feeding almost impossible; and in addition severe diarrhoea and diffuse bronchitis came on. The condition was all the more serious as the pulse rose at times to 140 in the minute.

On October 18th, I expressed to the parents my fear that we had to deal with a serious ailment connected with the chronic middle-ear catarrh, and which under certain circumstances would need surgical help in order to give egress to the pus which was present. Now that I was sure of the state of matters, I strongly urged that the child should be taken to the private hospital of a well-known aurist. The parents acceded to my wish, although very unwillingly, and the child was operated upon the same day (Oct. 21st) by the radical operation. At the end of eight days, however, in spite of the evacuation of large quantities of fluid pus from the petrous and the

transverse sinus matters were very much *in statu quo* and the aurist decided upon emptying the internal jugular vein as far down as the vena innominata: this was done, and the vein was found completely blocked by purulent thrombi. This second operation also brought no amelioration of the condition; on the contrary, matters daily became worse, so that at last my colleague the specialist held out no hope of saving the child. He wrote to me as follows: "After the second operation there followed for weeks, rigors, abscess of the lung, with terribly foetid expectoration, and abscess of the liver, perforating apparently into the bowel."

In order that the child might at least die at home, she was removed from the clinic; and I was summoned on Dec. 6th. I found the child no longer recognizable; she was terribly emaciated and pale, with bluish tint of lips. In the sick-room there was a penetrating putrid odour, which made it impossible to remain without open windows and turpentine sprayed about in the room. The smell arose from the expectoration, which was still very copious. On examining the chest I found over the whole of the left lung, front and back, loud rales, increasing in intensity towards the base, allowing one to hear the respiratory murmur above, but quite overpowering it below. In the lower part there was also diminished resonance. Temperature oscillated daily between 38.5° and 39° C., the pulse between 100 and 120. Appetite was nil, but there was constant thirst. She was quite apathetic, and took no notice of my visits or examinations. In these circumstances I prescribed the most nourishing diet possible, with moderate doses of strong wine (Samos, Tokay, and Malaga); wet-packs to the trunk once or twice a day; and lastly, lachesis 6 m v at first alone, and then, after a few days, in alternation with pyrogenium 10, each twice a day.

For a variety of reasons I did not see the patient again for a fortnight, and when I called, heard to my great astonishment that she had just gone out. My surprise was even greater when, after a few minutes, the child returned with fresh happy face and full round cheeks. On examining further I found a wonderful change in her condition; emaciation had disappeared, and she was as plump as before. There had been no fever for 14 days; the pulse beat 80 in the minute. The operation-wound, which at the time of my last visit was still discharging pus freely, was cicatrized. Cough and

expectoration had ceased, and examination of the lung revealed only a small strip of the left lower lobe where there were scanty feeble rales but no dulness.

The remedies, at first both, and latterly only the pyrogenium had been regularly administered. The appetite had gradually returned and was now quite "famous".

I think we are fully entitled to attribute this sudden change for the better to the remedies exhibited, especially to the pyrogenium; and in so doing, we need not undervalue the undoubted help rendered by the able specialist who by his technical skill first rendered it possible to save the child's life; he did all he could. The rescue from the pyæmic condition, however, was reserved for homœopathy; here the allopathic treatment, if indeed one can speak of it as such, completely failed. The operator's instruments reached but a small fragment of the disease products present in the body, whilst our remedies pervaded the whole system, and helped its own defensive organism to triumph over the blood-intoxication.

The happy effects of pyrogenium in the above case led me to experiment with it in the following one:—

CASE II.—Frau X—during her six years of married life had had one still-born child, and, later, an abortion accompanied by severe hæmorrhage, following which she suddenly sickened with symptoms of severe peritonitis (rigors, fluttering pulse of 130–140; temp. 40·5°, excessive tenderness of abdomen to lightest touch), the first and most acute stage of which was overcome with bryonia $\frac{1}{2}$. The temperature fell gradually to 38·5° to 39°. As a result of this first attack there could be felt in Douglas's pouch and the right parametrium an abundant doughy exudation about the size of a child's head, a swelling of the left ovary, and a slight (septic) endocarditis (mitral). The condition remained much the same for some weeks; about six weeks from the beginning of the illness unusually severe rheumatic pain in the right sciatic supervened, accompanied by unconquerable restlessness, although Frau X—was usually most patient; immediately afterwards an unusually profuse menorrhagia occurred, with evacuation of coagula as large as the fist (the menses had occurred four weeks previously, but the flow was of the very slightest and lasted a few hours only).

I now gave pyrogen. 10 gtt. v morning and evening, and obtained not only a speedy fall of temperature to normal and of pulse-rate to 80, but a diminution in the size of the pelvic exudate from the size of a child's head to that of a small apple, all in the space of three weeks, and without resorting to any remedy other than the pyrogen (with the exception of hydropathic compresses, which latter could hardly have accomplished so much in so short a time).

It appears to me that we have in pyrogen, an isopathic remedy, a most valuable weapon against severe sepsis, either in the shape of pure septicæmia and sapræmia or of sepsis complicating other severe ailments, such as typhoid, phthisis in its latter stage, gonorrhœal metritis, and pelvi-peritonitis, etc. The action in both my cases was so striking that the successful effects of pyrogen could not be held in doubt. Perhaps my short communication may lead other colleagues to publish their experiences with the above remedy.—(*Allgem. Homœop. Zeitung*, Feb. 8th, 1906, p. 33.)—*The Monthly Homœopathic Review*, March 1, 1906.

Gleanings from Contemporary Literature.

IS MUTATION A FACTOR IN THE EVOLUTION OF THE HIGHER VERTEBRATES?

THE stir created among botanists and horticulturists by the recent work of de Vries, particularly by his Berkeley lectures (1904) on 'The Origin of Species and Varieties by Mutation,' has led certain zoologists to believe that species of animals as well as plants may arise by the sudden assumption of new characters. Thus Davenport, in a recent review, expresses the conviction that 'as good an argument might be made from the zoological side as de Vries has made from the botanical.' The promulgation of these views by so eminent a student of evolution as Davenport, in connection with the circumstance that more or less similar views are held by others, has led me to re-examine certain groups of birds and mammals, of which I had previously made systematic studies, for the purpose of discovering evidence, if such exists, of the formation of species by mutation.

But first let us be sure of de Vries's meaning. He states that individual plants of a certain species of evening primrose which he kept under

observation for a period of years, suddenly developed abnormal new characters or 'qualities' that were inherited and gave rise to permanent new species, which continued to exist side by side with the parent species. This process he calls 'the origin of species by mutation.' While admitting the extreme rarity of occurrences of this kind, he appears to have been carried away with enthusiasm over his discovery and jumps to the conclusion that species in general originate by mutation—and in no other way!

After stating that species 'are not in the main distinguished from their allies by quantities nor by degrees; the very qualities may differ,' he goes on to say that if the differences in quality can not be explained 'by the slow and gradual accumulation of individual variation,' and if the sudden variations called sports or mutations, 'can be shown to occur in nature as well as they are known to occur in the cultivated condition, then in truth Darwinism can afford to lose the individual variations as a basis.' Continuing the argument, he declares: "Then there will be two vast dominions of variability, sharply limited and sharply contrasted with one another. One of them [that of individual variation] will be ruled by Quetelet's law of probability and by the unavoidable and continuous occurrence of reversions. It will reign supreme in the sciences of anthropology and sociology. Outside of these, the other [that of sports or mutations] will become a new domain of investigation, and will ask to be designated by a new name"—the origin of species by mutation. There would seem to be no doubt as to de Vries's meaning. The question is, are his assumptions justified by the facts in nature? It will be observed that he deems the perpetuation of individual variations jeopardized 'by the unavoidable and continuous occurrence of reversions.' Let me ask in all seriousness if sport variations are less likely to disappear by reversion than are individual variations?

Let us now examine the 'if and ands' of de Vries's argument. The first of these is: *If* the 'differences in quality [characters]' can not be explained by the slow and gradual accumulation of individual variations * * * May one venture to ask, why can they not be so explained? Is it not true that up to the time of the announcement of his new theory a little more than a year ago it was the practically unanimous belief of zoologists and botanists the world over that the differences in quality that go to make species do originate in precisely this way? And has any reason been brought forward to justify—much less necessitate—a change in this belief? Are we, because of the discovery of a case in which a species appears to have arisen in a slightly different way—for after all the difference is only one of degree—to lose faith in the stability of knowledge and rush panic stricken into the sea of unbelief, unmindful of the cumulative observations and conclusions of zoologists and botanists?

De Vries's second and third ifs are: "*If* such strips [produced artificially among cultivated plants] can be proved to offer a better analogy to real systematic species, and if the sudden changes can be shown to occur in nature as well as they are known to occur in the cultivated

condition, then in truth Darwinism can afford to lose the individual variations as a basis." The logic of this is hard to see, for is it conceivable that 'strains,' or varieties produced artificially among cultivated plants 'can be proved to offer a better analogy' to real systematic species' than species produced in the normal way by the perpetuation of individual variations? 'And if the sudden changes [sports or mutations] can be shown to occur in nature'—and I admit that they can—how does it follow that 'then in truth Darwinism can afford to lose the individual variations as a basis. Is not this a case of enthusiasm run wild? Is it not like arguing that if it can be proved that a man ate meat for breakfast, then of course he could not have eaten bread? To my mind the striking fallacy of de Vries's argument is his assumption that, because it can be shown that sports occur in nature, and that in rare cases species arise therefrom, then the theory that species are produced by the progressive development of slight individual variations must be abandoned. Why can not species originate in both ways? The occurrence of sports among animals and plants being admitted, the question arises as to what becomes of them. According to Darwin, Weismann, Dall, Jordan and a host of others they are lost by the swamping effects of interbreeding. That this is the usual result in both plants and animals I think every one will admit, for even de Vries frankly states that their perpetuation in giving rise to new species is so exceedingly rare that he is able to cite only a single authenticated case. I do not assume to be a botanist; nevertheless for more than a quarter of a century I have been an earnest field student of plants in their relations to geographic environment. These studies have convinced me that with plants, as with animals, the usual way in which new forms (subspecies and species) are produced is by the gradual progressive development of minute variations.

But we are not now concerned with plants. The question before us is, 'Do species among the higher vertebrates originate by the sudden acquirement of new character?' In seeking an answer I have passed in review more than a thousand species and subspecies of North American mammals and birds without finding a single one which appears to have originated in this way. Among the higher vertebrates, therefore, the conclusion seems justified that if species ever originate from sports, such mode of origin must be exceedingly rare. My own conviction is that the origin of species by mutation among both animals and plants is so uncommon that as a factor in evolution it may be regarded as trivial.

If species do not ordinarily originate in this way, it is fair to ask, 'How do they originate?' My answer is, 'By the slow but progressive acquirement of characters that have their beginning in minute variations.'

It is hardly necessary in the present connection to review the theories concerning the inception of variation, for whether or not we believe in the potency of dynamic influences, we all admit that individual organisms vary, and most of us are agreed that in the struggle for existence the beneficial variations are likely to be preserved, the harmful ones eliminat-

ed, by the action of natural selection. Some of us go further and believe that the universal and irrepressible tendency of organisms to vary results in the perpetuation, not only of distinctly useful departures, but sometimes also of those which, though not harmful, seem to be of not the slightest service to either the individual or the species. These, according to Dr. David Starr Jordan, owe their inception to geographic isolation. Dr. Jordan states: "The adaptive characters a species, may present are due to natural selection or are developed in connection with the demands of competition. The characters, non-adaptive, which chiefly distinguish species, do not result from natural selection, but from some form of geographical isolation and the segregation of individuals resulting from it. * * * Adaptation is the work of natural selection; the division of forms into species is the result of existence under new and diverse conditions." Jordan's view is that "the characters by which one species actually known from the next are rarely traits of utility."

This was Darwin's view also, for he says. "It is a strange result which we thus arrive at, namely, that characters of slight vital importance to the species are the most important to the systematist." T. H. Morgan goes even further, expressing his entire disbelief in the production of species through natural selection. Had he been familiar with the characters that distinguish many of our species of mammals, birds and reptiles he could hardly have held this view, for while in some groups the characters naturalists make use of in defining species are mainly of the indifferent kind, in others they are largely of the adaptive and useful kind. Thus mammals, birds and reptiles dozens of species and sub-species are distinguished from one another by adaptive characters alone. At the same time it should be understood that, as a rule species are based not on one but several characters, some of which may be adaptive, others non-adaptive.

PRESSURE OF THE ENVIRONMENT.

Darwin's definition of natural selection or the survival of the fittest is: "The preservation of favourable individual differences and variations and the destruction of those that are injurious."

Whether a particular variation is beneficial or injurious depends of course on the environment. It follows that variations in order to be beneficial must be in harmony with, or meet demands of, the environment. Whether such adaptations should be attributed wholly to the slow action of natural selection, or whether one may be allowed to cherish the belief that the environment not only invites but compels variation, involves a distinction as important as it is difficult of demonstration. Is there not a hidden force which independent of, or superadded to, the general tendency of organisms to vary acts as an incentive in initiating useful variations? Have we not evidence of this in the increased length of toes and feet in species inhabiting soft or marshy ground; increased thickness of bill in birds that habitually crack seeds or nuts; increase in the length of the canine teeth in mammals that catch and hold struggling

prey; increase in the size of the carnassial teeth in mammals that crunch bones of other animals; special modifications of the feet to fit them for special purposes, as for walking, swimming or grasping; and also such variations as appear to result from prolonged and oft repeated effort, as increased length of leg in species whose welfare depends on fleetness of foot, and greater development of the external ear, or greater complexity of the internal auditory apparatus which seem to be a consequence of long continued strain in listening for the approach of enemies or of prey? This subtle influence I like to call *the pressure of the environment*.

Dall was once bold enough to assert. "The environment stands in relation to the individual as the hammer and anvil to the blacksmith's hot iron. The organism suffers during its entire existence a continuous series of mechanical impacts, none the less real because invisible." These are weighty words, well worth remembering.

While a number of our ablest naturalists hold this view, the current feeling among morphologists and physiologists is undoubtedly against it. Thus Thomas Hunt Morgan in his book on 'Evolution and Adaptation' (1903), says. "We can probably reject, as I believe, much of the theory of natural selection, and more especially the idea that adaptations have arisen because of their usefulness."

Is not the fact that such diverse opinions are held by thoughtful men of science in itself an illustration of the pressure of environment? For is it not obvious—since these who spend their lives studying species in nature hold one view, while those who spend their lives peering into microscopes and inventing theories hold another view—is it not obvious that such antagonistic views are the outgrowth of different environments?

To those who admit the existence of dynamic influences it is conceivable that the inception of the resulting variations, as long ago pointed out by J. A. Allen, is not confined to a single individual, to be lost or saved by natural selection, but being the response of organisms to forces applied alike to all members of a species in a given area, takes place simultaneously in a large number of individuals and is thus established more quickly and with much greater certainty.

VARIATIONS.

It is convenient for the systematist to consider variations under four heads: (1) Fortuitous variations; (2) dynamic variations; (3) sexual variations; and (4) seasonal variations.

1. *Fortuitous variations* are such as arise without apparent cause—for it is in the nature of organisms to vary. They originate in a single individual, and occur everywhere, in all species of animals and plants. They may be beneficial, neutral or injurious. The beneficial, are likely to be preserved by natural selection and increased so long as the increase is beneficial to the possessor; the neutral may either disappear or persist; the injurious are promptly eliminated. According to degree of development at the time of their first appearance they may be designated *ordinary individual variations, or sport variations*. This is an old story.

2. *Dynamic variations* are such as arise, apparently, in response to pressure of the environment. They are necessarily beneficial, arise simultaneously in a number of individuals, and are cumulative so long as the increased development is helpful—that is, until a condition of equilibrium is established between the organism and the environment. They may be *functional* or *geographic*. Those that are functional may be *local* or *general*; those that are geographic may be *local* or *progressive*. Variations resulting from change of food habits, or from the necessity of coping with a new enemy, or from the too rapid spread of a species from one area to another, may progress to full maturity in a given locality, but in the case of ordinary geographic variations the change progresses laterally from one district to another. Thus, in species that undergo geographic color variations, the change as a rule takes place so gradually that specimens from adjacent localities may be hard to distinguish, while those from the two borders of the belt of intergradation may be markedly unlike. In this case the intergrades, as well as the extremes, are in complete accord with the surroundings, the members of the species at each step along the geographic line of intergradation having attained a state of equilibrium with reference to the environment at that point.

Usually the movements of animals and plants in acquiring new territory are slow, allowing time for the necessary adjustments to take place along the line of advance, so that no great change at any one locality is required. But it is conceivable that in certain cases the advance may be too rapid for this, bringing a species into an area to which it is not yet adapted, in which case the struggle for existence would be unusually severe and the development of adaptive characters would proceed with corresponding rapidity.

Illustrations of functional and geographic variation in the same animal are afforded by the kangaroo rats (genus *Dipodomys*)—a group of American mammals highly specialized for life on arid deserts. These animals have numerous enemies and a multitude of competitors, which means that the struggle for existence is always severe. They are of small size and have big heads, big eyes, small fore legs and feet, exceedingly long hind legs and feet, and very long tails. The long hind legs and tail are special adaptations for saltatory progression—for leaping instead of running. Another general functional character is the extraordinary development of the internal organ of hearing, which forms more than half of the bulk of the skull, enabling the animal to detect the approach of its mortal enemy, the soft-footed desert fox.

In addition to functional variations of this kind, which are general or common to the group, there are others that are local in character and confined to particular species or subspecies. Of these may be mentioned the increase in size of the hind foot in forms inhabiting soft or yielding soils—an adaptation that is even more marked in certain other groups.

Turning now from functional to geographic variations, we find in certain species a marked decrease in size from the north southward. In *Dipodomys spectabilis*, which ranges from north-central New Mexico to southern Chihuahua—a distance of about 700 miles—the actual decrease in length is 52 millimeters (2 inches), or 14 per cent of the total length. This is in accord with the general law of decrease in size from the north southward, announced by J. A. Allen many years ago.

The kangaroo rats furnish illustrations of still other matters of interest to the student of evolution. Passing the subject of color adaptations of which much might be said, let us look for a moment at certain facts brought to light by a study of bodily proportions. Tabulation of the measurements of upwards of 500 adult specimens of the several species shows that individual variation is great amounting in the hind foot to

15 per cent, in the total length to 20 per cent., in the length of tail to 24 per cent.—thus affording ample material for the evolution of new forms characterized by differences of proportion—but none such are developed. Indeed, the mean measurements throughout the genus are remarkably constant, the ratio of hind foot to total length varying only 2 per cent; of tail only 4 per cent. We have here a case of wide range of individual variation coupled with surprising constancy of proportions. What does this mean? It means, if I interpret the facts aright, that all the species of the genus *Dipodomys* have come to a halt along a common line, like soldiers in a well-drilled regiment, indicating that in the course of their evolution from a generalized to a specialized type they have already reached, with respect to the environment and mode of life, a state of equilibrium or equipose, from which any marked departure is injurious, if not fatal. The possibilities in the way of divergence are shown by the large range of individual variation, which, however great, ceased long ago to operate in the production of new forms. All departures from the type are clearly disadvantageous and hence are promptly eliminated by natural selection. The operation of dynamic causes has resulted in the production of fixed conditions so far as the proportions are concerned and no further modification need be looked for unless a marked change should occur in the environment.

SUBSPECIES

It is obvious from de Vries's writings that his studies of plants have been mainly with species as modified by man rather than with species in a state of nature. For instance, he says "The same original form can in this way give birth to numerous others, and this single fact at once gives an explanation of all those cases in which species comprise numbers of subspecies, or genera large series of nearly allied forms." In the present connection it is necessary to notice only two of the fallacies embodied in this sweeping assertion—the two concerning subspecies. As a matter of fact, subspecies in nature do not occupy the same ground with the parent form, but an adjacent area; hence it is hard to see how they could fulfil his geographic requirement, which is that forms arising by mutation occur side by side with the original stock. And since subspecies differ from the parent form only by small differences, how can they arise from sports, which are distinguished from the parent form by large differences—differences of at least specific value?

From this it appears that de Vries's conception of subspecies and their relations in nature is somewhat hazy. In order to understand the relations and mode of origin of subspecies it is necessary to study them on the ground where they are formed, which means that it is necessary to consider them geographically. To do this intelligently one must study species in a region large enough to embrace belts of transition from one faunal (or floral) area to another, for it is in these transitional belts that the changes from one species or subspecies to another take place. The failure to recognize this simple but all important fact accounts for most of the current misconceptions concerning subspecies.

DO SPECIES ARISE INDEPENDENTLY OF GEOGRAPHIC ISOLATION?

According to de Vries "We must conclude that new species are produced sideways by other forms, and that this change affects only the product and not the producer." Two of his seven 'laws' relate to this phase of the subject. These are: '(1) New elementary species appear suddenly, without intermediate steps; (2) they spring literally from the main stock (not replacing it).' In thus burdening his mutation theory with the additional requirement that in giving off new forms the old is not altered, but continues to exist side by side with the new, he restricts its application to an exceedingly small number of cases, thereby materially

weakening the theory itself. For in the case of the birth of a new species the new quality or character may be either neutral or beneficial. If neutral—of no value to its possessor—it is conceivable that the resulting new species may continue to exist in the same area with the old; but if beneficial the new species in the struggle for existence will eventually destroy and supplant the old—unless it diverges geographically so as to inhabit a separate area.

Dr D. S. Jordan has recently expressed the belief that well-defined species arise only as a result of geographic isolation, but I am not sure that he means by this just what the reader might infer. His words are, "It is now nearly forty years since Moritz Wagner first made clear that geographical isolation was a factor or condition in the formation of every species, race or tribe of animal or plant we know on the face of the earth. This conclusion is accepted as almost self-evident by every competent student of species or of the geographical distribution of species." A little later he says "The contention is not that species are occasionally associated with physical barriers, which determine their range, and which have been factors in their formation. It may be claimed that such conditions are virtually universal"; and again "Given any species in any region, the nearest related species is not likely to be found in the same region nor in a remote region, but in a neighbouring district separated from the first by a barrier of some sort."

J. B. Steere, in a paper on the distribution of birds in the Philippines, published in 1894, formulated the same idea in the following words "No two species near enough alike structurally to be adapted to the same conditions will occupy the same area," and added that the facts "show isolation to be the first and the necessary step in the formation of species."

I fully admit the potency of isolation in the production of species, but can not for a moment admit that complete isolation is a necessary factor in their evolution, mere *divarication* from a common center being in many cases sufficient. Neither can I admit that a barrier must be absolute, or that it must be interposed *between* species in order to be effective. This is proved in the case of climatic barriers which, while not keeping contiguous species apart, nevertheless restrain each from trespassing far on the territory of its neighbour.

It is quite possible that Dr Jordan's use of the word barrier, which occurs over and over again in his recent paper is sufficiently elastic to cover most of the apparent discrepancies, so that the exceptions to his rule are really few. Still, there are in nature many groups of closely related species whose ranges follow one another in geographic series, the one beginning where the other stops, with no barrier of any kind between, as will be shown directly. In such cases it is often difficult to say whether the adjacent species have been established by differentiation from one another under existing geographic condition, or have been developed from pre-existing species along geographically divergent lines, and afterward have met by extensions of range. These points may be made clear by actual examples.

Among the kangaroo rats of the genus *Dipodomys* are two large and closely related species inhabiting our southern deserts. One of these *D. deserti*, ranges from the Colorado and Mohave deserts in California easterly to a little east of Phoenix, Ariz; the other, *D. spectabilis*, from a little east of Phoenix to western Texas. The geographic division between the two is an invisible line a little southeast of Phoenix in a desert area devoid of barriers of any kind, even climatic. The case, therefore, appears to be an exception to the law of isolation.

Turning now to another group, illustrations of at least two kinds of variation among closely related species are afforded by the ground

squirrels of the genus *Ammospermophilus*, of which three distinct species and three subspecies are recognized. These animals resemble one another in form and markings and in the habit of carrying the tail closely appressed against the back so that its under side is uppermost and is presented to the view of the observer. In one species the under side of the tail is dark; in the others white or nearly white. The three species and their geographic ranges are

Ammospermophilus nelsoni, restricted to the hot southern end of the San Joaquin Valley in California, where it occupies a detached area and is isolated by the encircling mountains, which by interposing a climatic barrier cut its range off from that of the parent species, *leucurus*. It has acquired a yellowish color which serves to distinguish it from all other members of the group.

Ammospermophilus harrisi, inhabiting the southwestern half of Arizona and extending south far into the state of Sonora; separated from its neighbor (*leucurus* and subspecies) on the west, north and east by two kinds of barriers—on the west by the absolute barrier of the Colorado River; on the north and east, along the southern edge of the Arizona plateau and its southerly continuation in New and Old Mexico, by the climatic barrier interposed by the elevation of the land.

Ammospermophilus leucurus, inhabiting the Colorado and Mohave deserts in California and thence, passing north of *harrisi*, ranging northerly and easterly over the Sonoran deserts of the Great Basin and easterly over northern Arizona to the Painted Desert and the Puerco, where it changes into subspecies *cinnamomeus*, which continues easterly to the Rio Grande Valley near the center of New Mexico. On the opposite side of the Rio Grande (east of Albuquerque) another subspecies *interpres*, begins and follows the Grande southerly and easterly as far as the valley of the Pecos. A third subspecies, *Peninsula* occurs in the peninsula of Lower California. It thus appears that *leucurus*, including the subspecies, surrounds *harrisi* on three sides—west, north and east—forming a complete horseshoe open only at the south. The nature of the barriers separating it from *harrisi* has been mentioned under the latter species.

Of the three subspecies of *leucurus*, two—*cinnamomeus* and *peninsula*—have the under side of the tail of white and are only moderately accentuated color forms, continuous in distribution with the parent form and intergrading with it by imperceptible steps. The third subspecies, *interpres*, has some black intermixed in the white of the tail, and specimens from the El Paso region, where geographically *interpres* approaches nearest to *harrisi*, have more black than specimens from near Albuquerque, suggesting the possibility that intergradation may take place in the intervening area, in southwestern New Mexico. Unfortunately we have as yet no specimens from this area. If intergradation should be shown to occur, then we shall have an example of two well-defined species occupying adjacent areas and intergrading at the point of contact while remaining distinct everywhere else. In other words, the species are perfectly distinct wherever barriers exist separating their ranges, and intergrade when there are no barriers. In distribution and behavior, therefore, these animals conform to the usual rule, that closely related species separated by impassable barriers remain distinct, while those not separated by such barriers intergrade.

But the most significant and complicated case is that of the western chipmunks (genus *Eutamias*), one of the most elegant and attractive groups of American mammals. The genus occupies a vast area in western North America, extending from Lake Nipissing, Ontario, westerly to the Pacific Ocean, a distance of 2,000 miles, and from the Mackenzie River a

little north of Great Slave Lake southward to the mountains of Zacatecas in Mexico, a distance of fully 3,000 miles. Most of the species dwell in forests, but a few inhabit the great sage brush plains. Usually they contribute distinctive species to every life zone from the Upper Sonoran to the Arctic Alpine. In mountainous regions the species are commonly distributed in parallel belts, the borders of which are not only in absolute contact, but even slightly overlap for long distances.

As it will be impossible in the time at our disposal to consider more than a few of the species, I have selected for illustration those that inhabit eastern California, along an east-and-west line extending from the west base of the Sierra Nevada to the summit of the White Mountains. On the gradually rising slopes of the Sierra the species are arranged one above the other, from base to summit, in definite belts or strata. Field studies have shown that these belts are the same, as the trans-continental life zones, each of which is characterized by peculiarities of climate and by a definite association of species of mammals, birds, reptiles, trees and shrubs. There are no gaps between the belts, the upper border of one being coincident with the lower border of the next, so that individual animals of different species meet along the border lines of the several zones. In some cases only a single species inhabits a zone, but in one case not less than three occur together. These three however, as would be expected, are so very distinct from one another that they could not possibly have arisen by mutation.

Beginning at the foot of the Sierra on the west side, the first species encountered is a large, dark, long-tailed form (*Eutamias merriami*), whose range coincides with the limits of the digger pine or Upper Sonoran zone. Immediately above this is the broad belt of ponderosa pines and giant sequoias of the Transition zone. The chipmunk of the zone below does not occur here, but is replaced by a striking long-eared species (*quadrimaculatus*) which fills the zone and is restricted to it. Along the line where the yellow pines of the Transition zone change to the Murray pines of the Canadian no less than three species (*amoenus*, *senex* and *speciosus*) begin abruptly and range upward throughout the Canadian zone. Above this still is the Hudsonian zone, and it also has its distinctive chipmunk—a small but highly colored species (*alpinus*)—which fills the zone completely and climbs up a short distance on the alpine slopes above timber line. Crossing the summit and descending the steep east side of the Sierra, the Canadian zone is found to be inhabited by the same three species that occupy this zone on the west slope. Below this, in the nut pine belt of the Transition zone, is a brilliantly colored species (*panamintinus*) very different from any we have seen. Still lower, in the Upper Sonoran sage brush of Owens Valley, is a small gray species (*pictus*) not related to any of the others. Owens valley is a long narrow and deep valley between the Sierra and the white Mountains. Crossing this valley and ascending the west slope of the White Mountains we re-enter the nut pine belt and find the same chipmunk (*panamintinus*) that we found in the same belt on the other side of the valley (on the east slope of the Sierra). Continuing the ascent we enter the Canadian zone, which covers the greater part of the summit of the White Mountains, and in it find a widely different chipmunk (*inyoensis*), which proves to be another member of the beautiful *speciosus* group—a group we have already found represented in the same zone on both east and west slopes of the Sierra.

Thus in a distance of a hundred miles, from the west base of the Sierra to the summit of the White Mountains, are included the ranges of no less than nine species of chipmunks. This is made possible by height and steepness of the mountains, the abrupt changes in altitude with consequent differences in temperature compressing the life zones into narrow parallel

belts; whereas in level regions, as well known, these same belts are spread out broadly over the land.

The Sierra chipmunks furnish striking illustrations of the occurrence of species without isolation, and some of them of the evolution of species without isolation, for not only are there no visible barriers between the ranges of adjoining species, but the species themselves actually overlap along the zone borders, individual animals belonging to the zone above and the zone below occurring together on the same ground. But while there are no barriers between the species, each belongs to and is characteristic of a definite climatic life zone, and the fact that the life zones overlap slightly along the edges explains the slight geographic overlapping of the species themselves. The reason the species do not intergrade along the lines of contact doubtless is that they are not closely enough related—their differentiation into fully developed species (with the probable exception of *speciosus* and *inyoensis*) having taken place long ago.

The question now arises as to the origin of the nine species. Most of these, if studied independently of their relations in other parts of the country, resemble one another sufficiently to justify the inference that they have been derived from one another.

Far from holding this view, however, my belief is that some of them came from closely related forms in remote geographic areas, others from antecedent forms now extinct, and not more than three or four from species still inhabiting the region. The case is of a class often encountered by the systematist and student of distribution, where, without a comprehensive knowledge of the relationships and geographic distribution of the group as a whole and of its component species and subspecies, there is little hope of arriving at correct conclusions. Let us look closely at the facts, for they have an important bearing on more than one problem in evolution and distribution.

The Hudsonian species *alpinus*, now restricted to the lofty crest of the southern High Sierra, appears to be distantly related to *oreocetes* of Montana, but has no near relative.

Another of the Boreal species, *amoenus*, ranges northward over the Cascades in Oregon and is only subspecifically distinct from a form inhabiting the boreal forests of the Rocky Mountains in Colorado.

The *speciosus* group, it will be remembered, is represented in the east California section by two forms (*speciosus* and *inyoensis*), which may be called species or subspecies, as you like—the fact being that they are more closely interrelated than are any of the other forms of the region, although intergradation has not been proved. But instead of occupying different faunal zones, as do the other species, they occupy different parts of the same zone—*speciosus* inhabiting the Boreal slopes of the Sierra, *inyoensis* the corresponding Boreal crest of the adjacent White Mountains (here separated from *speciosus* by the Upper Sonoran and Transition zones of Owens Valley). But where did the *speciosus* type come from? Investigations carried on by the Biological Survey show that the same specific type still inhabits the upper slopes of the San Bernardino and San Jacinto Mountains in southern California, that a more distantly related form (*quadrivittatus*) occupies the Transition zone in Colorado, and that between the two, on an isolated mountain peak rising from the arid deserts of southern Nevada, is another species (*palmeri*), more strongly differentiated in consequence of local peculiarities of environment. These facts show not only that the *speciosus-quadrivittatus* group is a very old one, but also that its ancestors once inhabited the Great Basin itself. In those days the arid deserts of this region were in their infancy, and must have been completely bridged by continuity of coniferous forests, connecting the Sierra and Rocky Mountain areas.

The Desert Range species, *panamintinus*, which occupies the Transition zone on both sides of Owens Valley, occurs south of the White and Inyo mountains in the Coso and Argus mountains, and farther east, in the Panamint, Grapevine, Providence and New York mountains in the desert region of eastern California, and on Mount Magruder in western Nevada. It belongs to a group of which only one other species is known—*E. hopiensis*, of the high desert mesas of northeastern Arizona, southeastern Utah and southwestern Colorado. In this case, as in that of two other groups already discussed (the *amoenus* group and the *speciosus-quadrivittatus* group) the range of the type comprises localities on both sides of the Great Basin. It appears to be an aberrant offspring of the *speciosus-quadrivittatus* group and probably originated from the ancestors of that group in the bygone days when they inhabited the ancient forests of the Great Basin.

Eutamias Senex appears to have originated in the Siskiyou Mountains, on the boundary between California and Oregon, as an offshoot from the redwood chipmunk, *ochrogenys*—which in turn is closely related to *townsendi* of the northwest coast of Oregon and Washington. From the Siskiyou *senex* ranges north along the Cascades nearly to Mt. Hood, and south in the Sierra to the latitude of Yosemite Valley. In time it may be expected to push on to the south end of the Boreal Sierra in the Mt. Whitney region. *E. Senex* appears to be the parent form, directly or indirectly, of two other species—*quadrinaculatus* and *merriami*—whose ranges now occupy considerable stretches along the flanks of the Sierra. It seems probable that *quadrinaculatus* originated near the north end of its present range and under existing geographic and climatic conditions. While, as we have already seen it occupies the Transition zone, directly below the Boreal zone inhabited by *senex*, and while the ranges of the two are in direct contact for many miles, both species remain true, showing no tendency to intergrade. The history of *merriami* is by no means so simple, and the road by which it reached its present home by no means so direct. It is not an immediate offshoot from *senex*, for before attaining its present status it passed through another form, known as *pricei*. The story, as I interpret it, is this. In the northern part of California, south of the Siskiyou and west of the northern Sierra, the Boreal *senex* gave off a Transition zone form which spread and became differentiated in two directions—to the southward along the west flank of the Sierra it developed long ears and the peculiarities of coloration that distinguish *quadrinaculatus*; to the westward it developed the long tail and other peculiarities that distinguish *pricei*. The latter pressed southward through the coast ranges to Monterey Bay, south of which it underwent another change, assuming the characters by which *merriami* differs from *pricei*, and continued in the same direction to the Santa Barbara Mountains, and then easterly to Mt. Pinos, where its range forked, the north branch following the Tejon and Tehachapi Mountains to the southern Sierra and thence northward to a little beyond the Yosemite; the south branch pushing southeasterly over the Sierra Liebre, Sierra Madre, San Gabriel and San Bernardino mountains, and then south over San Jacinto and Palomar to the San Pedro Martyr Mountains of Lower California. In the Sierra region *merriami* is restricted to the Upper Sonoran zone, while its immediate ancestor, *pricei*, belongs to the Transition zone, and its remoter ancestor, *senex*, to the Boreal zone. The change from Boreal *senex* to Transition zone *pricei* and *quadrinaculatus* is merely a zone adaptation to an immediately adjoining area; the change from *pricei* to *merriami* is simpler and at the same time more interesting, for the belt occupied by *pricei*, while mainly Transition, possesses the climatic peculiarity of mild winters and relatively cool summers and fulfils the temperature

requirements of both Transition and Upper Austral zones, permitting an overlapping or admixture of the distinctive species of both. In this belt *merriami* became adapted to Upper Austral conditions, so that in extending its range back to the Sierra it was natural that it should adhere to the Upper Sonoran zone.

The three Sierra members of the *senex* group (*senex*, *quadrinaculatus* and *merriami*) therefore have reached their appropriate zones from opposite directions—*senex* and its offshoot *quadrinaculatus* from the north by direct continuity of range, *merriami* from the south (after passing through another form) by the roundabout way of the Coast ranges and the Tejon and Tehachapi mountains.

To sum up the story of the California chipmunks from the standpoint of their geographic origin. Of the nine species inhabiting the middle Sierra region, six (*senex*, *amoenus*, *speciosus*, *merriami*, *panamintinus* and *pictus*) appear to have come in from contiguous territory in their present condition—as fully formed species—although it is possible that one of them (*amoenus*) originated here and extended its range northward, and three (*quadrinaculatus*, *inyoensis* and *alpinus*) appear to have been developed within the region in the areas they now inhabit. So far as origin is concerned, therefore, we have to do with only the last three. Of these, one—*inyoensis*—was clearly derived from the *speciosus* stock by the gradual accentuation of minute variations; another, *quadrinaculatus*, appears to have originated from *senex* in the same way, as already explained, leaving only one, *alpinus*, whose history is by no means obvious. Since *alpinus* has no near relatives, there is little in the way of a clue to its ancestry. As already suggested, it may be the remnant of an Arctic-Alpine group, of which it and *oreocetes* of the high mountains of western Montana are the sole survivors. In any case its origin must be sought far back in the past.

I have dwelt thus at length on the California chipmunks for three reasons: (1) The problems they present to the student of variation and evolution are fairly representative of problems presented by other groups; (2) the compact distribution of the species in close-lying parallel belts in conformity with the life zones has the advantage of bringing them into near relations so that the facts of variation and behavior are easily discerned; (3) the study of the group emphasizes the necessity of a knowledge of the geographic distribution of species in order that their interrelations and probable origins may be understood.

The term geographic distribution must not be taken to mean merely the area a species occupies, to be shown by a color patch on the map, but includes a comprehensive knowledge of the geographic environment, taking into account the climate and the aspects of nature with which each species is associated and by which it is profoundly impressed. Moritz Wagner, in a paragraph recently quoted by Doctor Jordan, said: It is 'the study of all the important phenomena embraced in the geography of animals and plants, which is the surest guide to the study of the real phases in the process of the formation of species.' To the systematist and student of evolution this knowledge is so fundamental that it is hard to see how correct conclusions can be reached without it. In studying problems in nature the geographic point of view is the natural method of approach; it is a method so full of suggestions and explanations that we can ill afford to do without it. And how can it be otherwise, for do we not all admit that organisms are profoundly affected and modified by their environment? The utter hopelessness of attempting to work out the variations, affinities and probable origin of a group of related species of animals or plants without giving heed to the geographic distribution of the various forms has just been illustrated by the case of the Sierra chipmunks. If to a

knowledge of present distribution can be added a few facts from the paleontological history of the group a flood of light is at once thrown on the problem.

INTERGRADATION AND REGIONAL INFLUENCES.

In studying geographic variation in the various groups of terrestrial animals and plants one soon learns that among closely related species and subspecies some forms intergrade while others do not; and that among those that do intergrade, the change from one to another may take place abruptly in a narrow belt, or gradually, by imperceptible steps, over a wide area. These two kinds of intergradation do not usually occur in the same area, for the reason that each is associated with a definite set of geographic and physiographic conditions of which climate plays the most important part. As a general rule it may be asserted that where the geographic change from one faunal area to another is gradual, the change in the species is gradual; and conversely, where the geographic change is abrupt the change in the species is abrupt. Changes in a north-and-south direction are likely to be gradual; those in an east-and-west direction are likely to be more abrupt. In both cases, the controlling power of environment is easily recognized. It follows that one species does not change here another there; the rule—to which there are exceptions—is that all change in a common belt or area. It thus comes about that American students of species, from Baird's time to the present, have learned to recognize certain geographic areas, usually in the form of belts, where the transition from one set of animals and plants to another set takes place. These belts of intergradation, broad or narrow as the case may be, are always flooded with intergrades, which, though the bane of the museum man, are of great importance to the student of variation and evolution.

In order to make the matter perfectly clear—for it is one of no small importance to evolutionist—let me cite a few examples.

The common prairie ground squirrel or striped spermophile (*Citellus tridecemlineatus*) splits up into four geographic forms or subspecies. The range of the species as a whole extends from the plains of the Saskatchewan on the north to the coast of Texas, and from the extreme eastern edge of the prairie country in the Great Lake region westerly to and a little beyond the Rocky Mountains. Typical *tridecemlineatus* occupies the eastern and more humid part of this area. In ranging westward it undergoes a change, becoming paler and smaller as it enters the arid plains. The change occurs between the one-hundredth and one hundred and first meridians, from South Dakota to middle Texas, and the resulting pallid form (subspecies *pallidus*) continues westerly to the foot of the Rocky Mountains. In passing southward from the Upper Austral to the Lower Austral zone *tridecemlineatus* develops another form (subspecies *texensis*), which occupies a broad belt in Oklahoma and eastern Texas, east of the range of subspecies *pallidus*. But this is not all, for the plains form (*pallidus*) in pushing westward over some of the passes of the Rocky Mountains gives off still another subspecies (*parvus*), which occupies the

Green River Basin in Wyoming, and extends thence southerly in an irregular and interrupted belt along the border between Colorado and Utah, and occurs in isolated colonies in New Mexico and extreme eastern Arizona. Between these several forms are the belts of intergradation.

The case is one in which a well-marked species splits into four geographic forms or subspecies in conformity with the climatic and physical features of the region inhabited. Each form is fairly constant throughout the major part of its range and develops intergrades in the transitional belt between it and the next form.

Among North American mammals and birds there are hundreds of such cases, and more than 1,000 species and subspecies, connected with other forms by series of intergrades, might be enumerated.

It may be set down as a general law that wherever a species or subspecies passes into another, intergrades occur, not side by side with the typical form, but replacing it in the territory between it and that occupied by the new form, so that as a rule all the individuals from the transitional territory are intergrades. This fundamental fact in geographic biology seems to have escaped the keen eye of Darwin, who, in speaking of the difficulties and obstacles in the way of his theories, said.

"Why, if species have descended from other species by fine gradations, do we not everywhere see innumerable transitional forms? Why is not all nature in confusion, instead of the species being as we see them, well defined?" One of his critics, Thomas Hunt Morgan, thinks this a very serious matter. My reply to both Darwin and Morgan is that they are mistaken in their premises, for in nature transitional forms are so abundant as to be a source of annoyance and embarrassment to systematists and museum curators—men who are continually handling specimens which they desire to refer to one species or another. The only explanation I think of to account for Darwin's and Morgan's failure to recognize this fact is limited or unfavorable field experience, and limited experience in handling specimens from the peripheries of geographic areas large enough to cover the transition from one faunal division into another—in other words, failure to study the behavior of species in nature from the geographic standpoint. One might spend a lifetime in studying animals and plants in the interior of almost any of the faunal areas without encountering transitional forms or intergrades, for it is at the peripheries or borders of these areas that the intergrades occur. It would seem, therefore, that Darwin, in his effort to present fairly all objections to his theory, imagined a difficulty which does not exist, and that his critic Morgan solemnly shook his head at a man of straw.

Conclusion.—Inasmuch as all species have their beginnings in variations, and inasmuch as sudden or sport variations are exceedingly rare while slight variations are exceedingly common, does it not follow that the vast majority of species must originate from slight variations? My argument is not that species of plants may not in rare cases arise by the perpetuation of sport characters, as de Vries believes they do, but admitting this, my

contention is that the overwhelming majority of plants, and so far as known all animals, originate in the generally recognized way, by the gradual development of minute variations. The theory of the origin of species by mutation, therefore, far from being a great principle in biology, as some seem to believe, appears to be one of a hundred minor factors to be considered in rare cases as a possible explanation of the origin of particular species of plants, but so far as known not applicable in the case of animals.—*Science*, February 16, 1906.

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গৃহে গৃহে হোমিওপ্যাথিক প্রচার উদ্দেশ্যে এই পুস্তকখানি সরল-ভাষায়, সুলভ মূল্যে প্রকাশ করা হইয়াছে; এই পুস্তকে নতুন তৃতী চিকিৎসকদিগের জন্য আমরা প্রত্যেক পীড়ার নির্দিষ্ট ঔষধগুলির সচরাচর ব্যবহৃত ক্রম উল্লেখ করিয়া দিয়াছি, গৃহস্থ ও শিক্ষিত বামাগণ পর্য্যন্ত ইহা দেখিয়া সহজে তাহাদের সম্মান সম্মতিগণের চিকিৎসা করিতে পারিবেন। মূল্য—৫০ আনা মাত্র।

ওলাউঠা চিকিৎসা।

ওলাউঠা বা কলেরা অতি সাংঘাতিক পীড়া, হোমিওপ্যাথিক মতের চিকিৎসাই ইহার একমাত্র উপায় তাহা বোধ হয় সাধারণকে আর বুঝাইতে হইবে না, তবে প্রথম হইতে সীতিমত ভাবে চিকিৎসার আবশ্যক। সেই জন্য প্রত্যেক গৃহস্থের একখানি কলেরা পুস্তক ও কিছু হোমিওপ্যাথিক ঔষধ রাখা কর্তব্য। রোগীর শয্যাপার্শ্বে ধসিয়া বড় বড় রাশি রাশি পুস্তক হাতড়ান অপেক্ষা ইহা হইতে অতি সহজে, অতি শীঘ্র, রোগের স্রবণ দেখিয়া ঔষধ নির্বাচন করা প্রেরণ, ইহার ভাষা অতি সরল, মূল্য—১/০ আনা মাত্র।

সাধারণ মূল্য—মাদার টিং প্রতি ড্রাম ১/০, ২ ড্রাম ১১/০, ১ম হইতে ১২ ক্রম পর্য্যন্ত ১০, ২ ড্রাম ১০/০, ৩০ ক্রম ১০/০, ২ ড্রাম ১১/০, এককালীন ৫০ টাকার ঔষধ লইলে শতকরা ১২১/০ হিঃ কমিশন পাইবেন। পত্র লিখিলে সচিব কাটালগ পাইবেন।

বটিকর পাল এণ্ড কোং,

এন্ট হোমিওপ্যাথিক হল, ১২ নং ব্লক কিল্ডন স্ট্রীট, কলিকতা।

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THE HAHNEMANN ANNIVERSARY.

The Hahnemann anniversary and the annual meeting of the Hahnemann Society were celebrated on the 10th April. We had a sprinkling of the regular and irregular-practitioners and friends. Cards of invitation were issued to all our colleagues. Their paucity of attendance was a marked feature. Perhaps an ill-will prevented them from the national ovation to our Great Master. The bond of adhesion was wanting. It is an ill-wind that does no body good. An ill-feeling creates greater disaster than the passive negation. We wanted all our friends to muster strong to do justice to the cause. It was a hopeless task to tune the discordant notes. We live in wonderful days of self-assertion. Harmony and peace are generally wanting. Arrogance has taken the place of humility. For all this degeneration, we are not without the hope of regeneration. The rainbow of peace is prospective.

The Chair was taken by Dr. H. C. Ray Chaudhuri. Dr. A. K. Datta, the Honorary Secretary announced the sad news of the death of Dr. Hurronath Roy, who as a Vice-President was a great supporter of the Society. All the members felt deep sorrow on account of the loss.

Dr. Ray Chaudhuri then asked Dr. Girish Chaudhuri to read his paper on the Sanitation of Calcutta. It is our custom to hear the subject dealt with without any discussion, lest any

acrimonious debate destroys the kindly feeling pervading among the members. Dr. A. K. Datta proposed the following office bearers for the ensuing year :

President :

Dr. H. C. Ray Chaudhuri.

Vice-Presidents

Dr. W. Younan,

Dr. P. C. Mazumdar,

Dr. C. S. Kahi.

Secretary

Dr. A. K. Datta

Assistant Secretary

Dr. P. L. Kumar.

The happy occasion ended with a social gathering.

THE EARLY HISTORY OF HOMŒOPATHY IN CALCUTTA AND THE SANITATION OF THE CITY.

By Dr. Girish Chunder Dutt, L. M. S.

(Read at the Hahnemann Anniversary.)

Mr. President and Gentlemen,—We have assembled to-day to commemorate the birthday of the great Hahnemann, the man of thought and work, who sacrificed himself for the cause of humanity. Such men are born before their time and their life-work is appreciated by a grateful posterity. Christ sacrificed himself on the cross, and his burning words and exemplary life serve as a beacon-light, shedding a hallowed lustre which vivifies prince and peasant alike. The sacrifice of Hahnemann is no less noble. He had no thought for dear life which he consecrated to suffering humanity. Hahnemann is the father of Homœopathy which is now effecting so much good all over the world. We practise homœopathy, and it is opportune that we should bow down our heads in gratefulness and love, before that living figure, who towers head and shoulders over his contemporaries, whilst burning incense, to the great redeemer of the world. It is meet, we should offer our tribute to the

memory of the man, who was mainly instrumental in introducing homoeopathy in Calcutta. He spared no pains to foster the sacred cult which he advocated in and out of season, with all the strength of his character.

Half a century ago, homoeopathy was openly ridiculed in this metropolis and there was hardly a practitioner who could avow his belief in it. There was no homoeopathic dispensary, no practitioner, and it was by precept and example that the late Babu Rajendra Dutt tried to introduce the system in Calcutta. He brought out the late Dr. Berigny, opened the first homoeopathic dispensary, at his own cost and expense, and day and night moved about the town, treating hundreds of patients without the least remuneration. On the contrary, he always opened his purse-strings to his indigent patients. Such men like Pandit Iswar Chandra Vidyasagar, Raja Digambar Mitter, Peary Charan Sircar, Rai Bahadur Juggodish Nath Roy, Peary Charan Mitter and others were brought over to the side of homoeopathy by him alone. Is it not therefore our duty to commemorate the work of such a man? My poor self and Dr. H. C. Ray Chaudhuri must hold his memory in grateful remembrance for the many difficulties he smoothed away from our path. Rajendra Dutt deserves a public memorial for the sacrifices he made for homoeopathy. I leave it to you to settle the nature of the memorial but it is meet and proper that in an assembly of homoeopaths of the town, we should offer our humble tribute to the man who laboured and died in the interest of homoeopathy. Had Dr. Sircar been still living, he would have joined us in paying tribute to the memory of Rajendra Dutt.

I will, with your permission, say a few words about the sanitation of Calcutta. I regret I have not been able, on account of my poor health and professional engagements, to devote much time and attention on the subject. I will only point out to you the landmarks, and it would be for you to chalk out the routes.

Calcutta is not particularly healthy during this season of the year. Diseases of sorts are ravaging the town, and it would not be unprofitable, if we discuss the sanitation of our surroundings.

and some of the causes affecting health in a friendly way before an assemblage of qualified medical men. I will first turn my attention to the food-stuffs which are offered for sale. Are they kept in such a way as to prevent outside-contamination? Who has not seen sweet meats and perishable food-stuffs exposed for sale with no safeguards worth the name to protect them from dust, flies and bacilli, and disease-germs which float about in the air? Adulteration on a large scale, in ghee, milk and other substances and necessities of life is openly carried on under the very nose of the gentlemen who are called upon to look after our health. I will be the last person to say anything behind one's back but taking into account the extensive adulteration carried on and the putrid meat and fish offered for sale in the light of the day in the most open manner happening almost every day in most of the markets of the town, one would be apt to think that these sanitary officers are not alive to a sense of their duty. The Health Officer of the Corporation is not seen where he should be. He confines himself within the four walls of his laboratory intent upon gaining bacteriological experience which may benefit him in diverse ways. He should freely move about, and without depending upon the subordinates for his facts and figures look to the sanitation of the town himself. If one of our Municipal Commissioners with a bit of waggery in him should fix upon a most insanitary hole, and ask the Health Officer about the site and its surroundings then he would, I am afraid, be on the horns of a dilemma.

The drainage of the town is defective; the flushing operations are not up to the mark. Vitiating gas from the manholes is freely and constantly issuing and circulating in the town. This decomposed gaseous matter, which is heavier and denser than the surrounding air, circulating below a height of ten feet, is poisonous, and causes the deaths of coolies, entering the manholes. These effluvia, unhealthy emanations create acute and chronic diseases of various sorts and foster the hordes of bacilli which like ravenous greedy vultures float about ready to enter the human system. The cumulative action of sewer gas on the

human system gradually debilitates and weakens the conservative power of the vital force, which when unable to resist the action of the gaseous poison gives way to the generation of acute diseases, which may with lapse of time become chronic. The constant breathing of this vitiated atmosphere produces gradually general malaise, depression of health and more or less anemia. To stop the mischief which is brewing and which may assume serious proportions any day, it is better now to nip the evil in the bud by not allowing privy connections. Night-soil should be removed by methods and should not be allowed to pass through the drains reeking as they are with contamination of sorts. Night-soil will make the contamination more powerful and dangerous to health. Who has not noticed gas emanating from the manholes, while they are kept open in the morning before flushing? The manhole trap is not air-tight and there is constant issue of deleterious gas from it. Pedestrians, taking a constitutional walk in the morning, should beware instead of inhaling the salubrious morning air, they are likely to inhale the most subtle poisonous effluvia, which may dangerously affect their health and safety. Cases of typhoid fever were rare before the drainage system came into vogue, now they are met with almost in every part of Calcutta. You are all familiar with the name of Dr. Mouat whose academical distinctions and practical work raised him to a high position of trust and responsibility under Government. He emphatically said that Calcutta would be at sometime or other ruined on account of the underground drainage system, which will give birth to the worst and most virulent form of epidemic diseases. His sage and prophetic utterances are almost going to be verified. There is another patent fact about the drainage which I would like to point out to you. The drainage pipes may carry contagion from one house to another. If that occurrence is possible the look-out is dark and dangerous. Who has not noticed the fact that during the time of flushing, bad deleterious gas forces out of the sewers and contaminates the surrounding atmosphere. Now, please turn your attention to our drinking water. The

of filtered water has of late changed; at times a peculiar smell is noticed. Whence these changes? I have no hesitation to attribute them to the impurities, animalculæ and deposits formed up, germinated and accumulated in the water-mains and pipes which have never been cleaned since they have been laid under the soil. Decomposed matter and animalculæ have often come out through the hydrants. Leech and snake stories are extant in the town. These water-pipes have been left uncleared for years together. Does not common-sense say that it is a source of danger to public health? The Ganges water if kept for a long time, would never generate animal life, but purified pipe-water would do so and contaminate under certain conditions. I have hurriedly and imperfectly laid before you the plain facts which have come under my personal observation in the hope that you may look out for yourselves and devise schemes which will improve the sanitation of Calcutta, and obliterate dangerous conditions under which we all live. Another fact which I lay before you is that when there is a fall of rain, the streets and lanes especially in the native quarters of the town, are submerged and the water remains on the surface for a considerable period. This stagnation of water is one of the principal causes for the generation of the malarial poison and diseases of the digestive system. Is there no remedy for the accumulation? The drainage is defective or else why will the water remain for such a length of time on the surface? It is the duty of the Health Officer to take notice of this fact and prevent the stagnation of water.

Another matter affecting our health is the promiscuous use of foreign patent medicines and many other indigenous patent medicines, the ingredients of which are not always known to us.

A pushing, bustling speculator desirous of reaping a golden harvest within the shortest possible time, blows his own trumpet lustily; his words are believed in like Gospel truths, and we have not the least scruple to prescribe those nostrums for the benefit of our patients with results which may be better imagined than described. I do not go so far as to assert that all patent

medicines are worthless, and they should not be used by medical men. What I most emphatically protest against is the use of patent medicines when their composition is not known to us, and when we most innocently, it may be, repose our confidence in the word of the advertiser. I am a believer in the influence of stars, planets, &c., on the world. We live under this influence is perceptible on animal, vegetable and mineral kingdoms in a greater or less degree on account of the positions of the planets which according to their strength and capacity are beneficial or malefic in character. Swadeshi medicines obtained under given conditions, bring about beneficial results not to be obtained from foreign medicines grown and prepared under circumstances which vary considerably on account of the planetary and climatic causes. I throw out an idea and it is for you to reject or work upon it, as you may think best. The use of patent food, imported from Europe, should be brought into account. We do not know what chemical change this food undergoes when kept for a long time in a hot country. Is it not necessary to examine it before prescribing to patients?

A great controversy is going on about the cause of malaria. It is attributed to the bite of that ferocious blood-sucker the terrible mosquito whose eternal buzz behind our ears on sultry nights is more dreaded than the presence of the royal animal in the shape of a tiger. Water stagnating under the soil and defective drainage are favourite theories. But does it not strike you that ever since the use of quinine as antidote for malarial fever, the fell disease has increased in undue dimensions? A healthy man, partaking of quinine would show the identical symptoms developed in malarial fever. What I contend for is that quinine may have been an antidote for malarial fever which never existed in this country before the introduction of this drug. There are and were many excellent febrifuges which may be or might have been prescribed in fevers other than malarial, but instead of this, we use quinine in such fever, and malarial fever intervenes. I, therefore, assert that quinine is responsible for generating malarial symptoms.

COMMON DISEASES AND THEIR TREATMENT.

(Continued from page 99.)

Sabina has a few symptoms indicating its use in inflammatory swellings. They are *sprained pain in shoulder joint; stinging pain extending inward near elbow; sticking in outer condyles of elbows; pain in radius worse from motion or touch; bruised pain in middle of anterior surfaces of lower extremities on motion; sticking in heels extending outward; heaviness and indolence of body, forcing him to lie down.*

Allen says: "Chronic arthritis and gout better from open air, worse from warmth, with general depression; the pains involve the shoulders, elbows, hips and knees; often accompanied by pulsation in different blood-vessels". What remains useful for rheumatism and gout may also serve to allay inflammatory tension. It seems that *Sabina* may help in those cases where the sensation of pulsation is felt in the blood-vessels.

Saccharum lactis is Lactosa or Milk-sugar. The use of Milk-sugar in medicine proves that there is no substance which has not some kind of medicinal property or other. Clarke says: "Hahnemann chosen globules of *Saccharum lactis* as the chief vehicle of his remedies, because he considered it the most inert substance he could find. But his method of attenuating remedies had shown that no substance is inert in attenuations, and experience shows that no substance is *absolutely* inert in any form."

Without taking into consideration its diuretic and purgative properties, we would see whether it has any action on inflammation. It produces hot flashes all over the back of neck and shoulders; pain and soreness at the upper vertebral border of scapula; pain in back from scapula to sacrum; pain in lumbar region; pain in shoulder, axilla, elbow, wrist and hand; soreness in gluteal muscles, knee, and foot; (great physical exhaustion caused by over-work, completely relieved; repeatedly verified by Swan and others.); pains are worse in a damp room or basement, but better if there was a fire.

Saccharum lactis can be useful in slight pains attended with inflammation of any joint. It is an undeniable fact that Milk-sugar helps as a sequel in curing inflammations when other powerful medicines have been administered.

Salicylicum acidum is found rarely in nature. The artificial preparation is the source of supply. Like all pharmaceutical preparations, the product of laboratory-experiment, it has generally proved a source of mischief with the Old School. Homœopathy has taken the advantage of its poisonous symptoms to apply it in infinitesimal doses for a few brilliant cures. It can be applied in inflammation. The symptoms are: Heat, redness, soreness, and swelling about joints, worse in knees with acute piercing pains, worse on motion, better from dry heat; pain in fingers and little toes; drawing in calf extending into thigh, then transferred to arm; soreness and pain in deltoid and gastrocnemius, changing to wrist and forearm, with soreness to touch and soreness on moving limb; strained pain in shoulder.

The changing character of the path of Salicylic acid is most marked. It is said to be useful in any kind of swelling caused after suppression of foot-sweat. Its another peculiarity is the pain in the deltoid and gastrocnemius muscles. It has been used in rheumatic pains. In other kinds of inflammation the medicine can be tried where the pains are of a stinging nature.

Sanguinaria canadensis or the Bloodroot has: Pain in the upper part of left side of head, worse in eye; pain on touch in head; pain on breast, loin, nape of neck, shoulder and arm; nervous thrill through system; pulsation through whole body; pain in shoulders; from shoulder down to scapula; pain in hip extending into leg; pain in limbs, especially in shoulders, arms, and thighs, and worse at night; pain in right deltoid; bruised like pain in thigh, alternating with burning and pressure in chest; an uncomfortable prickling sensation of warmth spreading over whole body; pain rising from back of neck over top of head running down into forehead; weakness and palpitation of heart; redness and burning of hand; bruised pain in hip; swelling of leg and foot with inward burning and external oedema;

sharp and severe pains in ankles and foot; pain in superficial bony parts; most of the symptoms aggravate during evenings and mornings. Sanguinaria has cured many cases of rheumatism. No case has been recorded signifying its usefulness in ordinary inflammation. It may be serviceable in inflammation of the shoulder joint or nape of the neck.

Sarsaparilla produces: Lightning-like tensive pains here and there in body and about head; sensation in all bones as if breaking; drawing pain in scapulae and legs; inflammation of thumb, worse at night with throbbing and burning; pain in tips on pressure, as from ulceration or as from salt in a wound; shooting, tearing, pressive pains; darting, pricking sensation in bones; arthritic pains, from suppressed gonorrhoea, with diminished secretion of urine; rigidity and immobility of limbs; hot and tense swellings; redness and burning of hand; pain in tips of fingers (bruised and sore); swelling and stiffness of knees, with shootings; breast-bone as if bruised; face as if bruised; jaw as if broken; as if tips of fingers ulcerated, or as if salt were put on a wound.

Allen remarks: "Bone pains following gonorrhoea, or after the use of mercury, worse in dampness." Pareira says: "Its continued use is often attended with improvement of appetite and digestion, augmentation of strength, increase of flesh, the production of a more healthy tone of mind, and the palliation, or, in some cases, the complete disappearance of various morbid symptoms—as, eruptions, ulcerations, pains of a rheumatic character, etc. It is not adapted for the cure of intermittents or of simple debility. But its effects are seen in those depraved conditions of the system, which the public, and even some medical men, ascribe to the presence of a morbid poison, or to a deranged condition of the fluids. Hence, it is frequently denominated a purifier of blood. Those who do not adopt the pathological notion here referred to, call it an alterative."

By the Old School the following use of *Sarsaparilla*, which is to our present purpose, has been recommended:

"In chronic abscesses, attended with profuse discharge,

diseases of the bones, obstinate ulcers, chronic pulmonary affections accompanied with great wasting of the body, enlarged glands, and various other maladies connected with a depraved state of the system, Sarsaparilla is often a very useful medicine."

Great difference exists as to the quality of Smilax. The officinal *Sarsae radix* comes from Jamaica. It is a non-mealy Sarsaparilla. The mealy Sarsaparillas are not preferred for medicinal action. The non-mealy varieties are Jamaica and Lean Vera Cruz. The mealy are Brazilian, Honduras, Gouty Vera Cruz, and Caracas. The non-mealy contain more smilacin, are more acrid, and they yield the largest quantity of extract. Among them, that coming from Jamaica is the best.

Scrophularia has proved curative in threatened abscesses that show no sign of disappearing; in recurrent periostitis of lower jaw in a syphilitic, and as a local remedy in appendicitis. These facts are collected by Clarke. He remarks: "Cooper gave it to a patient who had been poisoned by an Indian arrow-poison which produced inflammation and suppuration of the glands. . . . 'Nodosities in the breast' is another indication of Cooper's. . . . Cooper has seen *Scroph.* in the form of a poultice relieve peritonitis affecting the lower abdomen."

Secale cornutum produced Gangrene of stomach, lungs and liver, preceded by inflammation; limbs painful, cold, rigid, almost insensible with internal pain, worse from heat, somewhat better from cool air, the pain gradually extended from toes to legs and thighs and from fingers to arms and shoulders, till sphacelus supervened, the affected parts dead, black and dropped off; extremities pale, cold and wrinkled, as if they had been long in water; insensibility of fingers and toes; fuzzy feeling (Phos); sensation of sleep with formication; contractions of hand, feet, fingers and toes; sudden periodic contraction with tensive pain; swelling and pain without inflammation, then coldness, blue color, cold gangrene and death of the limb; swelling of hands and feet with gangrene, black and suppurating eruption; discolored skin on fingers and toes, then gangrene, then dropping off of limbs; gangrene of fingers and toes; of limbs, then suddenly become cold,

lead colored and insensible; of limbs without pain when pricked or cut, though often motion is not entirely lost; with separation of the part from the body; the dead part separated at the joint; cold gangrene of limbs; cold and painless, so that fingers and toes drop off; formication; burning associated with coldness; black gangrenous pustules; subcutaneous tingling; ulcer turn black; sanguineous vesicles which turn to gangrene in the limbs; dry gangrene, particularly on right side, beginning in toes and running up the limbs.

We are not at present interested in the phenomenon of gangrene. Clarke remarks: "The boils in which *Sec.* is indicated are small and painful, with green contents, mature very slowly, heal slowly, and are very weakening." No experience has been recorded with regard to the stage of inflammation which precedes gangrene. It seems that *Secale* may be of service in inflammation with coldness, numbness and swelling. 'Absence of heat is the predominating character.' The swelling is worse by external heat. 'There is internal burning in the affected part which disallows covering.

The other prominent symptoms are thus described by Clarke: "For *Sec.* lessens the coagulating power of the blood, and produces a hæmorrhagic diathesis; persistent offensive bleeding. Small wounds bleed persistently In spite of burning in all parts of the body as if sparks were falling on the patient. Another characteristic sensation is numbness; tingling as if ants crawling all over, better from rubbing. This may accompany hæmorrhages, loss of other fluids, debility, or skin affections. In the later stages of ergotism there is anaesthesia." These symptoms indicate its use in many diseases including inflammation.

To be continued.

EDITOR'S NOTES. ,

Kissing.

We take the following from *Matthewson's Exchange and Bureau Advertiser*, Nov. 14, 1905.

"We should have more faith in the anti-kissing crusade if it were conducted by men of a kissable type.

It is all very well for a man to suddenly discover at the age of seventy that kissing involves danger from germs. Why did he not discover it when he was twenty five?

It is not fair. These dry-as-dust professors have no romance.

Once upon a time a fox lost his tail. "I will make it the fashion for foxes to have no tails," said he, and he called a general meeting, and used all his eloquence to induce the other foxes to part with thier tails. But in vain.

Once upon a time there was a solemn old bore of a professor whom no one would kiss. "I will abolish kissing" said he, and he called a tuberculosis congress, consisting, like himself, chiefly of old fogies. They were delighted at the suggestion that kissing should be stopped, for no one ever kissed them, and it made them angry to see kissing going on elsewhere. So they passed the resolution.

And it was obeyed, but only as far as the old fogies were concerned. People who had heretofore refrained from kissing the old fogies read the resolution and continued to refrain."

Aberrant Vaccinia.

The following letter from the *Lancet*, February 3, shows how vaccinia can be transferred from the child to the mother :

"A VACCINATION vesicle, in an anomalous situation is perhaps no very great rarity ; they are always worthy of report as awkward questions of diagnosis may be raised by them. I was fortunate enough to secure an excellent photograph of a case of this kind that came under my observation last summer. The woman applied for treatment at the Bourne Valley Dispensary. The appearance of the "sore" of which she complained was that of a large mature vaccine vesicle and on inquiry I learned that her baby had been vaccinated a fortnight before and that the arm had "taken" well. The exact manner in which the virus had been transferred could not be as-

certained. The baby's finger-nail seems the most probable instrument of inoculation. The lip, as the illustration shows, was much swollen and it was very painful; there was considerable constitutional disturbance—pyrexia, headache, &c. These symptoms subsided in a few days and the vesicle ran the usual course."

The case shows that vaccination-pustules are capable of producing infectious sores to others. The transference depends on the health of the person. In this case, it may be presumed that the mother who was infected by the vaccination pustule of her child, was susceptible to its influence. It is an indirect form of vaccination.

A Case of Marked Intolerance of Belladonna.

We take from the *Lancet*, March 3, the following.

"The following case is remarkable as showing a very marked idiosyncrasy with respect to belladonna. The patient, who was a nurse suffering from cellulitis of the leg unattended with any abrasion of the skin, was ordered an application of "glycerine and belladonna" 40 minims of this mixture, that is approximately 20 grains of extract of belladonna, were applied to the inner side of the foot. Within half an hour the patient complained of great swelling of the leg and a sensation as if the skin would burst. Dryness of the throat and lips, a feeling as if the nipples were being forcibly retracted, and difficulty of speech quickly followed. The patient now became delirious, the pupils were widely dilated and insensible to light, the hands were kept in perpetual motion groping for imaginary objects, and efforts were made to tear the bedclothes. This delirium lasted for some hours, after which she gradually became more composed but felt as if she had passed through a severe illness. In 48 hours the dryness of the throat and the pain in the breasts had disappeared, though the pupils remained dilated and only resumed their normal condition on the fourth day. The treatment consisted in the administration of hot coffee and a quarter of a grain of morphine, together with the use of continuous hot applications."

This case of Belladonna poisoning illustrates the danger even in local application. The Old School should take a note of this case before ordering such use.

Laryngeal Tuberculosis.

In the *North American Journal of Homœopathy* for March, we have the following note :

"Differentiation must be made between malignant, syphilitic and tubercular laryngitis. Severe pain is absent (practically) only in syphilis. Ulceration is shallow in malignant and tubercular cases; deep and jagged in syphilis. In tubercular infection the tubercles may be seen below the epithelial covering even before they break down, and the ulcers may be seen merging into each other. A club-shaped enlargement of the arytenoids is almost diagnostic; also a tumefaction in the posterior commissure of the vocal chords, while a general anemia of laryngeal mucosa is always suspicious.

In diet, fresh, raw eggs, fertilized, i. e., from flocks of fowls in which there are a sufficient number of efficient male birds, and milk warm from the cow, i. e., with the animal heat and vitality unimpaired, are particularly commended. Operative measures are inadvisable, useless, cruel."

Laryngeal tuberculosis is of unfrequent occurrence. The cases under our treatment were observed to get hypertrophy of the arytenoid cartilages, mixed with the emission of large quantity of sticky sputa. In syphilitic laryngitis the expectoration is not so profuse and the hypertrophy of the cartilages is absent.

Native Pharmacologies.

In the March number of the *North American Journal of Medicine* we read :

"The *Calcutta Journal of Medicine* suggests the advisability of India having a pharmacology of its own, as it has so many native drug substances. As an instance it notes that the native quinine has proven itself as efficacious as the imported Peruvian bark. Tinctures are much more reliable as well as more potent when made from fresh vegetables. Therefore, it is an advantage to have them "home-made" rather than from foreign dried plants. They are also cheaper. It is a wise provision of Nature that each country seems to contain the drugs which are best fitted for the ailments of that country. It is therefore the part of wisdom to develop the native resources. By all means let our Indian brethren, as well as our brothers in other countries, construct native pharmacologies. Not

only they, but the whole brotherhood of practitioners will gain thereby."

We thank our colleague for the appreciation of our service in the cause of an Indian Homœopathic Pharmacology. It was always the earnest endeavour of Dr. Mahendra Lal Sircar to prepare tinctures from fresh plants. We followed him in his foot-steps in that cause. Our first desire is to avail of those medicinal plants which have already been so well proved and then to add others which are only found in India.

Fatal Blood Poisoning following a wound by the Primula Obconica.

The Lancet, of the 21th March, has the following :

"The patient, a woman aged 29 years, was recovering from an attack of influenza when she accidentally scratched her nose whilst smelling at a plant of the variety referred to. The nose rapidly swelled up, became a deep plum colour, with many points of suppuration similar in appearance to a carbuncle. Under an anæsthetic the diseased portions of the nose were scraped away. Eczema of both eyelids followed, the same destructive process taking place in the soft tissues, a diffuse cellulitis of the forehead and scalp then supervened, and despite incisions continued to spread. No discharge came from the wounds. The patient died at the end of the week with symptoms of pneumonia. At the post-mortem examination acute congestion of both lungs with many foci of suppuration were found. Cultivations discovered the streptococci and staphylococci present. This is the third case of acute inflammation of the skin and subcutaneous tissues I have met with after infection by the primula obconica. Two died and one recovered after a very prolonged illness. These infections were all on the face. I learn that a species of eczema of the hands often affects gardeners when tending this plant. These facts hardly encourage one to add the primula obconica to one's floral possessions."

The poisoning symptom of *Primula obconica* is interesting, as much as it produces diffuse cellulitis of the face. The danger of erysipelas in the face can not be under estimated. For this reason it is an additional help to our list of medicines in that kind of disease.

The Sale of Narcotics in the United States.

The Lancet, April 14, writes :

"UPON the invitation of the legislative committee of the American Pharmaceutical Association a conference of delegates from the various pharmaceutical associations in the United States has met to consider what steps might be taken to check the sale of narcotics in the United States. As a result of this conference a draft Bill has been formulated to provide against the evils resulting from the traffic in certain narcotic drugs, including cocaine, alpha and beta eucaine, opium, morphine, heroin, chloral hydrate, or any salt or compound of these substances. Section 1 makes it unlawful for any person to sell, to furnish, or to give away any of these substances or their preparations, except upon the original written prescription of a medical, dental, or veterinary practitioner. The prescription must contain the name of the patient or in the case of a veterinary prescription the kind of animal that it is intended for and must be signed by the prescriber. It must be permanently filed by the pharmacist who dispenses it and must only be repeated upon the written order of the prescriber. No duplicate copy may be made or delivered to any person but the original must at all times be open to inspection by the prescriber and by authorised officers of the law. Provision is made for the sale without these restrictions of minimum stated quantities of preparations of these drugs—e.g. preparations containing two grains of opium or one-eighth of a grain of cocaine in one fluid ounce. Exceptions are made also in the case of preparations containing opium when recommended and sold in good faith for diarrhoea and cholera and when the label bears specific directions and a caution against habitual use; other exceptions include Dover's powder and ointments and liniments plainly labelled "for external use." Section 2 makes it unlawful for a qualified practitioner to supply or to prescribe any of these substances for the use of any habitual user of the same. But the provisions of this section would not prevent any medical practitioner from supplying or prescribing these drugs for a habitual user of narcotic drugs under his professional care, provided that the administration of the same was considered by him to be a necessary part of the treatment. Section 3 provides that any person who shall violate any of the provisions of the Act shall be deemed guilty of a misdemeanour and shall be fined upon conviction for the first offence not less than 25 dollars or more than 50 dollars; for a second offence not less than 50 or more than 100 dollars; and for a subsequent offence not less than 100 or more than 200 dollars, and shall be imprisoned in the country gaol for not more than six months, and if the misdemeanant be a qualified physician, dentist, veterinary surgeon, or pharmacist his licence shall be revoked. The remainder of the bill deals with the machinery whereby prosecutions shall be set in motion."

The necessity of a similar bill has become imperative in India. As far as we know the Government of India being an excise trader cannot venture to make the law.

Ricinus in Gallstone Colic.

The North American Journal of Homœopathy of February, takes from Dr. Bernay's note, in *Homœopathische Monatsblätter*, the following remarks:

"The pathogenic and toxic symptom of ricinus show striking similarity to an attack (with the sequelæ) of gall-stone colic. Experience has taught ricinus in alternation with belladonna exercises even in the 3^d dil. a most favorable influence, rapid and almost as analgesic as a hypodermic of morphine and much more enduring and without the ill-effects of the latter. This amelioration is especially striking if there be great nausea, greenish diarrhœa. Vertigo and anxiety with a sensation of epigastric pressure. The alternation with belladonna is particularly indicated if the attack be accompanied by much flatulence, an alternation of pallor and flushing in the face and violent pains compelling the patient to bend double. The ricinus acts upon intestine and liver, aided by the vaso-motor specificity of belladonna. Ricinus 3, belladonna 3, gtt x of each in two glasses of distilled water (200 grams), a spoonful in alternation every 10 minutes. If the vomiting persist the remedies may be given in cold water or the mæstruum frozen and given as cracked ice. Ricinus is not only efficacious in the acute attack but pre-eminently so in the sequelæ, e. g.:

1. It cures the sequent jaundice.
2. It hinders and delays a recurrent attack or materially lessens its violence.
3. It acts potently upon the digestive disturbances which accompany the colic disease and which are exhibited as heaviness and flatulence several hours after a meal, especially after fatty or starchy food. Here experience has taught the value of ricinus, dil. 6 to 10, gtt. iii-iv or a few pellets a half-hour before meals. Marked improvement soon follows."

The experience of Ricinus in curing gallstone colic is a new feature. Ricinus creates violent colic and yellowish vomiting. The remedy is worth a trial in other cases.

Personal Experience with Small-Pox.

The *Homœopathic Envoy* of March writes:

"My husband and I left San Francisco November 1, 1901, on board a government transport, for Manila. After leaving Guam, about November 18, all passengers were vaccinated. I was quite ill for two or three days, from the effects of the contagion, having considerable fever. The surgeon pronounced the scab a healthy one. My husband's vaccination was not successful on this or two later attempts.

We lived in a provincial city that was suffering from a scourge of small-pox. The death rate per day would have scared people at home. We were exposed continually in and out of our schools.

On November 16, 1902, I took the small-pox; fortunately an American physician was there to advise and help. He had seen as

high as one hundred and fifty people in a pest-house at one time and said that my case was far worse than any of them.

There were no nurses to be had, and my husband took care of me through the illness, and did not contract the disease. He was vaccinated successfully when a child, but none has been successful since.

I was sick in bed with the small-pox just four weeks, and was about two months longer in recovering fully. I was broken out from head to foot, alike, and the eruptions were so close together that they would break open and the virus would run down the doctor's hand when he took hold of my wrist to take my pulse. My fever was very high, remaining between one hundred and three and one hundred and four and a half for ten days, and I was conscious all of the time. My pulse was very rapid most of the time, reaching one hundred and forty-eight."

The danger of vaccination generally remains unreported to show the success of vaccination. Recently, we had the chance to see a few such cases. Three children were revaccinated from the same virus contained in one tube at almost the same time, by a municipal vaccinator. Two of them had moderate attacks of the disease. One, a girl of twelve had a half suppressed type of smallpox with high fever and delirium. The girl could be saved by the administration of homœopathic medicines. Many cases have occurred like the mentioned incident ending fatally in a few. By observing the present epidemic, we have entirely lost faith on the fad of vaccination. *

"Max" on Destruction of Rats.

"Max" writes in *Capital* —

"Rats! Rats! The plague is again upon us trying to burn into our minds the lesson that unless we exterminate the evil, of which this pestilence is the visible and outward sign at its very root the city will simply shelter in plague, and small-pox and all other diseases brought on by filthy men and filthy houses and filthy districts until all the non-immune amongst the inhabitants are killed off. We have resolved over and over again to improve and cleanse Calcutta for years past and again the execution of the scheme has been relegated to the lotus land of "put-it-off" for one year more. The Municipal Plague Department seeing that the root of the evil remains untouched have been doing all they can at the other end, viz., recording and tabulating the number of the seizures and deaths and seeing to the

proper disposal of the dead and to the disinfecting of the houses. This year they have been doing more.

Believing that rats are in some way connected with the spread of plague the Department have been conducting a crusade against these animals, and have been paying two annas per head for every live rat brought to the several District Stations. The results for the past 90 days ending 31st March last are as follows—

		Total number Caught.	per day	Average.
District No. 1	..	20,318	..	225
Do. „ 2	..	1,628	..	18
Do. „ 3	..	3,784	..	41
Do. „ 4	..	1,067	..	12

Even at the Head Office an average of a little 4 rats per day were tendered during the period referred to. The total number of live rats secured at a cost to the rate-payers of Rs. 8,379 was 27,038. The reward is now reduced to one anna per live rat. It will be interesting to watch the result of the reduction of the rate on the number that will now be tendered.

Besides these 27,038 live rats there were 11,700 dead rats picked up during the 90 days, or an average of 130 per day. There must be at all times a considerable normal death rate amongst the huge community of rats living in Calcutta and these 130 are of course part of the daily mortality. According to an eminent authority, the ratio of rats to human beings in a community is as 1 to 2. This would give the rat population of Calcutta at about 500,000. Now the natural fecundity of rats is something appalling, and the catching of 300 live ones every day does not in the slightest degree reduce the population. But the Plague Department mean well, and if the daily sacrifice of 300 live rats can even by the gift of faith, be connected with a corresponding decline in plague, it is surely folly on the part of the municipal believers to lower the rate of remuneration to the rat-catchers. Surely not a smaller but a greater inducement ought to be held out to them. If according to the Health Officer's opinion the catching of 300 per day causes a sensible diminution of the plague what would the catching of 600 or even of 8,000 not do. But whatever happens, be ye sure of this the natural and virulent fecundity of the species will baffle all your efforts to reduce the rat population of Calcutta. We will have to begin at the root if the plague tree is to be destroyed."

Kill the rats is the cry in India of the modern sanitarians. They seem to have lost their senses in this matter.

"Medical Practitioner" or "Doctor."

The British Medical Journal of March 31, says :

"BYRON sang, 'I want a hero—an uncommon want.' We want something much less uncommon—that is, a single word that shall denote a person who practises medicine, without reference to any special department or province of the art of healing. All other nations have such a word. The latin races have their "medicū" or their "medico", the Germans their "Azt"—a relic, we believe, of the title borne by high functionaries of imperial Rome; the Russians their "vratch", the Swedes their "lakare"; the Danes and Norwegians their "læge". The last term reminds us of the old English word "leech," as to which Dr. Payne, in his FitzPatrick lectures, says: "It seems a pity that we have lost this useful word 'leech,' which survived through the Middle Ages (and, according to Archbishop Trench, much later in Ireland). At the present day we much need a collective expression for physician, surgeon, apothecary, doctor, medical man, all of them either partial or ambiguous in meaning; and in place of the seven syllables 'medical practitioner' it would be a great convenience to use the one syllable 'leech'." It would certainly be a convenience, but we are inclined to think that the convenience would be too dearly purchased. To modern ears the term "leech" connotes only a blood-sucking creature which has medicinal uses, and its application to medical practitioners would simply invite every witling to devise fresh matter for laughter against our noble profession. This would soon come to be a serious addition to the dullness of a country on which the New Humour already weighs heavily. By what name, then, are we to be called? The Americans, with their practical sense, use "physician" as a generic term; this, however, is open to the objection that it must often be ambiguous. "Medical man," or the snobbish variant, "medical gentleman," is not comprehensive enough for the present day, unless we apply the grammatical rule that the masculine embraces the female. It is probable, however, that this would be objected to by lady doctors. The same objection lies to "medico," which, besides, has a smack of vulgarity. "Surgeon" and "apothecary," both of which were used by people in comparatively recent years to designate the general practitioner, are now obsolete in that sense. If a lady in society were to speak of "using the potticary," no one would understand her; yet Mr. George Russell, who is still in vigorous middle life, says he is just old enough to remember a great grandmother who used that expression when she meant sending for

the doctor. Mr. Richard Grant White, in his book *Words and their Uses*, sniffs disparagingly at "practitioner" as "an unlovely intruder which has slipped into the English language through the physician's gate." The fact appears to be that it is the lawyer's gate through which it has gained admission. It is formed from the old French "practicien," which is defined by Cotgrave in his *Dictionary of the French and English Tongues* (1632) as "a practiser, or practitioner in law, a pleader, etc." Another seventeenth-century writer who says the word was originally "pragmatitioneſ," applies it exclusively to lawyers. If a phrase of old Bishop Latimer in his sermon on the Lord's prayer, "Consider how long he (to wit, Satan) hath been a practitioner," be quoted in disproof there are many who would not accept this as a rebuttal. A word of more correct formation would be "practiser," and for this we might quote the authority of Chaucer, who says of his "doctour of physik" that he was "a verray parfit practisour." But why should we not gracefully bow to the force of usage, and adopt the designation already given us by the voice of the people, which has been called the voice of god? We venture to think it is mere pedantry that finds fault with "doctor" as the English equivalent of "medecin." There is the highest authority for this use of the word. Falstaff asks his page, "What said the doctor to my water?" In the *Merry Wives of Windsor*, mine host of the Garter Inn says: "Shall I lose my doctor? No, he gives me the potions and the motions." Dryden—whom we quote with regret on account of the rudeness of his speech—says, "So liv'd our sires ere doctors learned to kill." Defoe, in his *Voyage Round the world*, says, "Our doctors themselves (so we call the surgeons at sea)." A word which was good enough for Shakespeare and Dryden is surely good enough for us, more particularly as it conveys an implied compliment that we are *par excellence*, the depositaries of learning and the distributors of its fruits."

In India the term doctor is applied to all medical practitioners, either lay, half-fledged, or full-fledged. The use of the word is so very loose here that it often causes irritation for making no distinction. The strict application requires it to be placed before the names of medical practitioners who are only M. D. To avoid all difficulty, it is now the custom to call Doctors all those persons who are properly qualified medical men. The modern use is to write Dr. Mati Lal Ghose M.D., Dr. Prem Chand Das, M.B., Dr. Kishari Mohan Banerjee L.M.S., It avoids also the confusion with Dac., L.L.D., D.L., etc., which are non-medical epithets.

The next question of importance is whether the lay practitioners and apothecaries will be allowed the use of the term Doctor. They are called by their patients as such and they use the word as Dr. Anup Chand Datta, without any subsequent designation. In law courts they are not recognised as Doctors. The list of medical practitioners published by the Government of Bengal do not contain their names. We think it would be safe to exclude them from the category of Doctors.

Onosmodium in Muscular Asthenopia.

In the *British Homœopathic Society*, Mr. C. Knox Shaw read the following paper :

"Some years ago, when the late Dr. Hughes was at work upon the "Cyclopædia of Drug Pathogenesis," he drew my attention to the probable value of onosmodium in muscular asthenopia. Since then I have prescribed the drug frequently, and with marked benefit. But I have been much surprised to find to what a number the name and action of the drug is quite unknown. I have therefore ventured to bring a short notice of it before the members of the Society.

Onosmodium is a plant of the natural order *Boraginaceae*, growing wild in America. According to Clarke's "Dictionary of Materia Medica," it is commonly known as "false gromwell," a tincture of which is made from the entire fresh plant, including the root."

It was first proved by Dr. W. E. Green, who published his results in the *Hahnemannian Monthly* in June, 1885.

He appears to have proved the drug three times upon himself and twice on Mrs. C.

The head and eye symptoms are marked and characteristic. I give them in the order of frequency of occurrence.

Dull occipito-frontal headache. Dull heavy pain in frontal regions and in both temples, also in mastoid region, the temporal headaches being most markedly left-sided. Headache over both eyes. Dull pain on the top of the eye-balls. Feeling of tension in the eyes. Wants to look at things very far away. The eyes feel tired, as if they were stretched wide open. The eyes feel tired. The lids feel heavy.

The vision is blurred. During the proving visual acuity was reduced from $\frac{10}{10}$ to $\frac{8}{10}$, and remained so for several days, returning to $\frac{10}{10}$ when the drug was left off.

Ophthalmoscopically it was noted that the optic discs were hyperæmic and the retinal vessels engorged.

Associated with the head and eye symptoms there were certain other frequently recurring ones: numbness and weakness in the legs, tired, weary feeling in the limbs, weariness, very tired.

Another marked symptom is rawness and dryness of the throat. The drug is a sexual depressant in both the male and female, and in women excites uterine and ovarian pain, as well as aching and pain in the breasts.

When studying the drug one is struck with the marked association of the head and eye symptoms with those of great muscular tiredness and weariness, especially of the lower limb.

The cases in which I have found the curative sphere to be most marked are those with dull, aching occipito-frontal headache, or left-sided headache, with heavy lids and tired, watery eyes, with inability to use them for any length of time, general lassitude and weariness, especially of the limbs, a feeling of tiredness all over.

We meet with this condition very frequently in cases of asthenopia, when the symptoms are out of all proportion to the amount of the error of refraction discovered.

I am convinced that it is not wise to ignore these small errors of refraction, and that it is necessary to correct them optically, especially in astigmatism, when the asthenopic symptoms are marked, so that I almost invariably give the patient a prescription for glasses, even when ordering the indicated remedy. As the prescribing of glasses in a great many cases is all that is heeded, and all symptoms will disappear under their use, it not infrequently happens that no prescription for medicine is given unless the patient continues to complain at a subsequent visit. In many cases of errors of refraction we have not only to correct the optical error, but to treat the temperament of the patient in whom we find the error, and it is in such cases that we find drugs like *onosmodium* so useful. Similar acting drugs are *actea*, *ruta*, *kalmia*, *gelsemium*.

Onosmodium has been used in all dilutions from the mother tincture to the cm. I have prescribed it most frequently in the 2x or 3x.

Mr. KNOX SHAW, in reply, said he wrote the paper with a very definite object. It had been so often said that from the surgical section no therapeutical work was ever presented. It had been his desire to write a short paper which would convey a certain amount

of information, which he trusted would be valuable, and to set an example which might be followed by others. It was a complete omission on his part not to have added *natrum muriaticum* as one of the remedies for asthenopia, because he had found it of extreme value, and had found it helpful even in such a material dose as 6x. He had used it occasionally in the thirtieth dilution. He had used *lilium*, but it had never been a drug that had "caught on" with him. He had used it in cases where he thought the astigmatism was due to ciliary muscle spasm, and now and then he had obtained benefit from its use. He would give *actea* where asthenopia was associated with some pelvic disturbance. It was extraordinary, what a number of people with a pelvic disturbance had muscular asthenopia, and in such cases he prescribed *actea* or *macrotin*."

The remedies for Muscular asthenopia are few in number. *Natrum Muriaticum* is a valuable medicine, and the addition of *Ouosmodium* imparts valuable help.

OBITUARY

DR. HURRO NATH ROY, I. M. S.

Dr. Hurro Nath Roy was an inhabitant of Mahisrhi about twelve miles south of Calcutta. Being born in a Pirali Brahman family he had many friends among them in Calcutta. He graduated from the Calcutta Medical College in 1867 and shortly after, selected Allahabad for his field of activity. After showing his skill in the orthodox system, he gradually leaned towards homœopathy, observing the immense superiority of the new system. Subsequently Calcutta drew his attraction as the premier town of India where homœopathy was preferred. He wrote a few books on the practice of medicine and other subjects and was among us about two decades manifesting the success of his achievements, till he was ruthlessly taken away by the great annihilating force, leaving an old mother, a devoted wife and children to mourn his loss. About seventy he was when the sad occurrence took place. He had diarrhoea for some time but being always busy with practice he could not think of rest, till eternal rest and peace was forced on him after an active work of thirty-nine years. As a Vice-President of the Hahnemann Society, he always evinced an ardent zeal for professional status. We mourn the loss of a friend and colleague. Our sincere condolence to the bereaved family.

CLINICAL RECORD.

Indian.

A CASE OF SUPPRESSED SMALL POX.

By Dr. Hem Chandra Roy Chaudhuri, L. M. S.

S ——— a boy aged 15, residing in Jadu Nath Srimany's Lane was first seen on the 3rd February, 1906. He was suffering from fever and eruptions which seemed to be small pox, from the morning of the 30th January. I saw two matured pocks, one on the left cheek and another on the right chest near the right axilla. The face and body were covered with raised papules. They were more than erythematous and less than pocks, having blackish tops. The nature of the eruptions gave fright to the family. A few medical practitioners pronounced an unfavourable prognosis and they retired without administering any medicine. The Medical Inspector employed to look after Smallpox cases and Vaccination was of the same view with others. The father of the boy though not being in favour of homoeopathy was yet obliged to call me as a last resort, for he had horror of quacks who pretend to cure small pox cases, I mean the so-called *Sitala-Pandits*.

I saw the boy at 9 a. m. He had then the temperature 101.4 F., with thirst and restlessness. He had no delirium. Bell. 30 was prescribed. In the evening the temperature rose to 102.6.

4th February. Temp. at 7 a. m. 101.

The same medicine was continued. Evening temp. 103.

5th. The eruptions have risen up and assumed suppuration.

In other respects he was almost the same. Morning Temp. 101.6. *Variolinum* 12 dec., Evening temp. 103.

6th. Morning temp. 101.6 *Variolinum* 12 dec. Evening temp. 103.2.

7th. The pocks have taken the confluent type. Morning temp. 102. The face was considerably swollen as well as the body. *Ant. t. 6* dec. Evening temp. 103.4.

8th. Morning temp. 102.4. Was delirious and restless at night. No change for the better. *Ant. t. 6* dec. Evening temp. 103.4.

9th. Was delirious and restless at night. Burning sensation was accompanied with thirst. *Placebo*.

10th. The condition was almost the same. Morning temp. 103. Was very restless and delirious at night; had great thirst. *Melandrin* 30. Evening temp. 104.

11th. The morning temperature came down to 102. The other complaints were rather less than yesterday. *Melandrin* 30. Evening temp. 101.

12th. The temperature has come down 100 in the morning. The accompanying complaints were far less. Evening temp. 99.4. The same medicine.

13th. He was doing much better. The confluent pocks were drying up and forming masses of scabs. The swelling of the face and limbs has considerably lessened. Morning temp. 98. *Melandrin* 30. Evening temp. 98.

The patient gradually recovered and only *Placebo* was given after this. He could come out of the room about three weeks after the 13th February. The last difficulty was with his eyelids which could be opened gradually and with great difficulty. The conjunctivae were affected. The corneae were without any touch of ulceration. The boy being my neighbour I could see him now and then. Rice and fish soup were given about three weeks after the first appearance of the pocks which were first observed on the 30th January.

Remarks.

In this case the unfavourable symptoms were so many that they yielded under the influence of our medicines. *Bell.* helped the issuing out of the suppressed eruptions. The administrations of *Hep. sulph.* was not necessary to work against suppression. The severe confluent type yielded to *Melandrin*, after the failure of *Ant. t.* The high character of the suppurative fever was an index to its severity. The use of thermometer could demonstrate the morbid nature of the changes undertaken by the pocks. The gradual subsidence of the temperature showed the success of *Melandrin*, as the fever never yielded to *Ant. t.* The case proves the usefulness of thermometer in such cases, without which any rational treatment would have been impossible. The use of *Melandrin* becomes manifest in this case of confluent small pox on the failure of *Ant. t.*

Foreign.

TUBERCULINUM AND ARSENICUM IODATUM IN
ALBUMINURIA.

By DR. A. LAMBREGHTS, of Antwerp.

Tuberculinum.—I was led to experiment with this medicine in nephritis because I had been struck with the constancy and intensity of the kidney symptoms in tuberculous patients undergoing treatment with Koch's tuberculin. I found, in fact, that if a relatively feeble dose of tuberculin be injected under the skin of a phthisical patient whose kidneys are sound, sharp pains are soon experienced in the region of the kidneys; the urine becomes albuminous and at times contains a notable quantity of blood. Tuberculin is therefore capable of producing well-marked acute nephritis, and the three symptoms, renal pain, albuminuria, and hæmaturia, are included in the pathogenesis of *tuberculinum* published by Dr. Mersch in the first volume of the *Journal Belge d'Homœopathie*.

Since that time I have had the opportunity of trying the effect of the drug in different varieties of nephritis, and I have observed that it is especially efficacious in infectious nephritis, such as the nephritis supervening upon scarlatina, upon influenza, or upon erysipelas. Tuberculin would be specially indicated if the patient showed any disposition to tuberculosis or to catarrhal pneumonia. Dr. Jousset fully confirms the beneficent action of tuberculin in post-scarlatinal nephritis.

The remedy appears less efficacious in chronic nephritis; nevertheless I believe it may render important service in the treatment of Bright's disease associated with tuberculosis or pulmonary hepatization.

Clinical observation:—

CASE I.—Marie H., aged 9 years, of lymphatic temperament, and without tuberculous antecedents. Was attacked with scarlatina on March 10th, 1904. The malady pursued a normal course under the influence of the usual homœopathic remedies, when about the eighteenth day symptoms of acute nephritis showed themselves. The eyelids were puffy, there was slight œdema of the ankles, and the urine contained 3 per 1000 of albumin (Esbach). R. *Tuberculinum* 6 and milk diet. After ten days of this treatment the urine contain-

ed only half the quantity of albumin, and the œdema of the ankles had totally disappeared. At the end of the fourth week there was no trace of albumin remaining.

CASE II.—Auguste V., aged 58, brewer, seen Nov. 14, 1903. The patient had had some weeks previously a violent attack of influenza, the respiratory and digestive symptoms predominating. This was followed by acute nephritis with well-marked uræmic complications. When I first saw the patient, he was delirious, there were vomiting and convulsions; the pupils were dilated; the urine was sanguinolent and contained about 8 per 1000 of albumin. At the right base there were dullness and some fine dry rales. The tongue was coated, bowels constipated, temperature 38 C.; there was no œdema of the lower extremities. I prescribed cupr. acet. and cantharis to combat the uræmic complications. Under the influence of these two drugs the head-symptoms improved considerably, and the patient recovered consciousness the very first day. Nevertheless the urine remained red and strongly charged with albumin, I then tried tuberculinum G, which appeared indicated by both kidney and lung symptoms. The patient used the remedy for a month, and by Dec. 14th he had completely recovered, not a trace of albumin remaining in the urine.

CASE III.—A woman of 40, of lymphatic temperament, showing old cicatrices on the neck, and two of whose children had died tuberculous, was seized with erysipelas, which commenced with the *alae nasi* and invaded face and scalp; then these symptoms disappeared suddenly, and she complained of vague pains in the loins. The urine contained blood and about 1 part per 1000 of albumin. There was but slight œdema. The tuberculous constitution of the patient led me to prescribe tuberculinum G, which answered perfectly. At the end of ten days the patient was completely cured.

Arsenicum Iodatum.—This is one of the most important drugs in chronic albuminuria. Its homœopathicity is undoubted; in fact in toxic doses it completely disorganizes the kidneys, and we find in the urine albumin and the formed elements from the renal gland. In exceedingly minute doses it acts as a re-constituent of the kidney, and under its influence the albumin diminishes in a marked and constant manner even in the gravest cases, as I have often had occasion to testify. Iodide of arsenic is specially efficacious in the

lower triturations (third or second decimal). The high dilutions seem to have a less certain and prompt action. It is especially indicated in the chronic nephritis of anæmic patients, in parenchymatous nephritis, and in the interstitial nephritis of arteriosclerosis.

CASE I.—The patient was a farmer, aged 47, suffering for several years from parenchymatous nephritis. In consequence of a chill the malady became aggravated; œdema showed itself in the lower extremities and made rapid progress. Sudorifics, purgatives, and diuretics were exhibited, but without success. *Paracentesis abdominalis* was performed on three different occasions, but each time the ascitic fluid collected again within three or four days, and the medical attendants gave a hopeless prognosis. It was then that the patient's wife came to me begging me to examine the urine and to tell her if there were still some chance of a cure. A rapid examination of the urine showed that it contained a large proportion of albumin. On a more careful analysis it was found to amount to 15 grams per litre; it contained numerous hyaline and fatty casts and was deficient in urea. I commenced treatment with cantharis, but without result. I then administered first arsen. iod. 3x, and soon afterwards arsen. iod. 2x, under the influence of which drug considerable amelioration took place; the urine became more abundant and the anasarca disappeared insensibly.

After six months' treatment the urine still contained about 2.5 grams of albumin, but the patient believed himself cured and left off medicines. I had occasion to see him lately, after an interval of five years, and though the urine still contains about 2 grams of albumin, the patient has been able to follow his out-door occupation without experiencing very much fatigue.

CASE II.—On Jan. 28, 1903, I saw a young girl of 14 who had never menstruated, and who had suffered from chronic nephritis for more than a year. She presented all the symptoms of anæmia, pale tint, blanched lips, palpitation, oppression on the least exertion, neuralgia, leucorrhœa, etc. The urine contained 2 grams of albumin. The treatment hitherto had been entirely unsuccessful. Arsen. iod. 3x had completely removed the albuminuria at the end of three weeks and the general condition had very markedly improved.

CASE III.—I am at present treating a young man of 23 suffering from chronic nephritis for the last two years. When I first saw him

his urine contained 5.5 grams of albumin and numerous hyaline cylinders. The different allopathic drugs to which he had been subjected had had no influence upon the quantity of albumin. I prescribed arsen. iod. at first in the 3x and then in the 2x trit., with a diet consisting of milk, vegetables, and fruit. When next examined the urine contained only 1.5 grams, and the hyaline cylinders had completely disappeared.—*Monthly Homœopathic Review*, February 1, 1906.

CASES ILLUSTRATING THE ACTION OF *SULPHUR* *IGNATIA*, AND. *SEPIA*.

BY DR STONHAM.

CASE 1.—H. K., aged 33, a fur-skin dresser. Admitted to the London Homeopathic Hospital on July 22, 1903, as an out-patient.

Five years ago the patient had pleurisy. Previously he had very perspiring feet, but after the pleurisy the feet became dry; and there was also left behind from the pleurisy a burning pain at the base of the right lung—the seat of the pleurisy—not constant, but frequent.

He expectorates much bluish phlegm in the mornings only. He smokes a good deal in the evenings, and takes six to eight glasses of ale daily.

Nine months ago an eruption started, at the bases of the toes of both feet, consisting of watery vesicles which are very irritating, and when they burst the fluid from them is very acrid, and the surrounding epidermic areas are inflamed by it and destroyed, the dead epidermis then peeling off, leaving a raw, red surface. This heals up in from eight to ten days, but a day or two later the whole process recommences, so that his feet are never really free from eruption.

He feels in good general health when the eruption is fully out, but just before it comes out he feels "out of sorts." There has been no burning pain at the site of the old pleurisy since the eruption commenced nine months ago. There are no physical signs of abnormal character to be detected in the chest. He has attended the London Hospital, the Westminster Hospital, and nine different doctors, but gets no better.

July 22, 1903.—*Sulphur* 30 m. v. nocte manequa.

August 5th.—The feet have gone through their cycle of eruptive changes one since he was here. The eruption is now in the healing stage. The burning pain has returned in the back. *Sp. Vin. Rect. nocte mansque.*

August 19th.—Has gone through another but shorter and less severe cycle. Is now practically well again, and has been so for nearly a week. The feet are in better condition now than they have been in for months. Hardly any burning pain in the lung. *Rep. S. V. R.*

September 16th.—The eruption has not broken out again, and the foot is well. There is only a dusky discolouration of the skin over the formerly affected area. A slight, dull pain under the right scapula, which comes soon after rising and lasts till 7 p.m. *Sulph 30 m.v.* alternate mornings for 14 days.

October 14th.—No return of symptoms. *Rep. Sulph*

November 11th.—Feet still quite well. Burning in spot over base of right lung comes on at 2 p.m. and lasts till 8 or 9 p.m. He is sitting at work all that time; When he gets up and walks about the pain goes. It does not come on Sunday when he is not at work. His employment is to dress all kinds of skins, and this involves much use of the right arm. *Ars 30 m.v. om. mane.*

December 5th.—Feet remain well. Burning pain under right scapula gone.

CASE 2.—Miss B., aged 20, in September, 1903, had a bicycle accident, running unexpectedly when on her bicycle against the shaft of a cart, which struck her over the left eye. She met the cart and ran straight between the horse's legs; she was not run over. She was taken into a shop and given restoratives, as she nearly fainted, but did not actually lose consciousness. There was not much loss of blood, and no great injury to bone or tissues. At first little effect seemed to result from the accident, but a fortnight later it was noticed that she was more childish and had foolish notions and actions, and these increased. She feels she can take no interest in her work, and does not care whether it is done or not, but goes on doing her household duties mechanically and without thinking about them, and consequently very slowly and inefficiently. She has a constant desire to watch other people and windows of the opposite house, and is under the dominant idea that they are all watching her. She

laughs at trifles, and in a silly manner, and also easily sheds tears. Wishes she had not long to live. Feels she is "giving way to the devil" and does not care. Cannot think steadily on any subject. Appetite and sleep are good; physical health good; pulse 80. No menstrual irregularity. She is not at all timid, and rides her bicycle as before the accident, perfectly fearlessly.

November 3rd.—*Ign.* 30 pil. ii. t.d.s.

November 7th.—Less melancholy the last few days; less inclined to cry. Is now quite conscious that her ideas and notions were silly, but said she could not help them. There is a general want of mental tone, and a childishness which is unnatural to her. *Cont. Ign.* 30.

November 21st.—Very much better. Still a little childish, but all melancholy has gone, and she takes an interest in work and amusements.

December 19th.—Is now quite well, and has lost her childishness. She has since nursed her mother through a long and fatal illness without the least sign of return of mental indisposition.

CASE 3 —Miss E. Y., aged 13, had for over twelve months suffered from strumous ophthalmia with ulceration of both corneæ, conjunctival injection, and extreme photophobia. She had been under skilled homeopathic treatment all this time, with occasional ameliorations and repeated relapses. After coming under my treatment she fared no better, though she was given all the usual eye medicines—*Merc. cor.*, *Bell.*, *Euphrasia*, *Aconite*, *Conium*, &c., and had various local treatment as well.

At last it was decided to prescribe entirely on the general condition of the patient, and to use a repertory. There were no very marked symptoms beyond the state of the bowels, which were constipated. The feces were small and hard, and passed with difficulty; there was frequent urging with the passage of nothing but flatus on stool being attempted. This characteristic symptom of *Sepia*, together with the eye symptoms of *Sepia*—great sensitiveness of the eyes to the light of day, inflammation in the eyes, burning in the eyes, lachrymation—caused the selection of *Sepia*, which was given in the 12th centesimal dilution night and morning.

Under this treatment rapid improvement both to the eyes and general health took place. The bowels began to act regularly and sufficiently; she became less timid; got to sleep better (she had lain

long awake before). The corneal ulcers healed and the eyes lost all inflammation, but the healed ulcers left behind them corneal opacities.

A certain degree of astigmatism resulted, which was partially corrected by glasses ; but it took two to three years for the opacities to clear off, during which time there was occasional slight relapse of the ophthalmia, always immediately checked and improved by a few doses of *Sepia*. For the last two years she has had no trouble with the eyes at all, and the corneal opacities have quite cleared away ; and she sees to do a large amount of clerking work without spectacles and without eye strain.—*Homeopathic World*, April 2, 1906.

Gleanings from Contemporary Literature.

ADULTERATION OF FOODS AND DRUGS, THEIR RELATION TO THE PUBLIC HEALTH.

BY AMANDA C. BRAY, M.D.

Worcester, Mass.

The conservation of the public health is a duty not wholly belonging to the medical profession, although the world looks to those who have received medical training and have earned medical degrees for instruction in hygiene and the rules which should govern and regulate life. It has been the custom to turn to the physician when health has broken and disease seized upon the vital organs, but now, more and more the world is turning to the physician for information upon all subjects pertaining to longevity and robust health. The effort to live to a "green old age" free from disease and suffering is the goal toward which all are turning—for the ideal life is the one which results in work accomplished, in progress achieved, and all things equal, that life must be a healthy one. The physician need not be deterred from teaching the laws of health for fear that he may diminish his professional income because it takes a certain amount of sickness to exhaust an invalid, and if this is extended over a period of eighty years he will make as much out of it as he could have done in forty years, so that from a business point of view there is no reason why a physician should not be a teacher of hygiene.

One of the many and largest factors which influence the health of the people is food—because eating is the chief industry of the race. There are thirty million wage earners in this country drawing twenty-five million dollars a day—and of this amount, three-fourths are applied to the purchase of food and its preparation. A subject that monopolizes 3-4 of the

energies of the people is surely one well worthy of discussion and one worthy the attention of a body of physicians whose duty is not wholly the curing of disease but whose vocation has extended to the larger purpose of conserving the public health.

No reading man or woman is now ignorant of the appalling extent of adulteration of food and drugs, and of the disgraceful laxness of the Senate which allowed the pure food bill to die in its last session. The fact that nearly every State in the Union has enacted laws more or less stringent against the sale of adulterated foods containing harmful adulterants, and against false articles of food and medicine, shows conclusively that the conditions of the market are such that these measures are a necessity. There is not a single enlightened nation of the earth that does not attempt to protect its people from the injury of poisons and destructive agents in foods and drinks and also against misbranded articles. We are living in an artificial age, consequently we must employ artificial means to sustain life. The average business man cannot devote ten hours a day to confined labor and at the same time retain his health, yet that is what is expected of the average clerk and several hours additional to the successful man because business demands it and they are compelled to meet those conditions. A hurried life—without leisure, without sunshine without exercise in the open air, with indiscriminate and hastily eaten diet, must necessarily carry with it a long train of nervous conditions making the victim of these irregularities an easy prey to disease and broken health.

By artificial means and scientific methods the average life of man has been prolonged in the last fifty years, and it has become a known fact that proper diet varied to meet the wants of each individual is not only the greatest preventive of disease but the most potent panacea of the ills of the day.

The nation is unable to prescribe a dietary course for each individual—it cannot say what each one shall or shall not consume, but it can and should be morally responsible in its protection of the people from fraud and imposition, so that acting intelligently a man may procure such foods and drugs necessary for his physical condition and be assured that he is buying the article that he desires. It is a duty that the government owes each citizen, to shield him from the greed, rapacity and the dishonesty of those on whom he is obliged to depend and to protect his rights.

The Secretary of Agriculture a few years ago estimated the sale of adulterated foods in the U. S. in a single year at \$1,175,000,000,00, or about 15% of our entire commerce in foods. This estimate was made from the reports of the food commissioners of several states and such other sources as he could command and to be conservative he adopted but 50% of the total result shown. When one thinks that the great bulk of our food products consists of flour, potatoes, vegetables which are seldom adulterated, we can see that the percentage of adulterated articles must be enormously increased. I quote from the commissioners' report:

"One might suppose that the meats offered for sale would be generally pure and true to name, but of potted chicken and potted turkey, which are common products, there is really not a can found which contains in determinable quantity either chicken or turkey." "More than 90 per cent. of the meat markets use chemical preservatives, and in nearly every butcher's shop could be found a bottle of Freezem, Preservaline or Iceine as well as Bull Meat Flour. The amount of boracic acid employed in these meats varied to a considerable extent and expressed in terms of boracic acid in sausages and Hamburg steak would probably range from 20 grains to 45 grains per pound. Scarcely a ham can be found that does not contain borax, and in dried beef, smoked meats, canned bacon, in canned chip beef, boracic acid or borates is a common ingredient." "Ninety per cent of the so-called French peas are found to contain copper salts in varying quantities, and in a few, samples of aluminum salts were found in addition."

"Eighty-five per cent of the canned mushrooms were found to be bleached by the use of sulphates, and apparently no definite rule was followed by the canners, and in many instances the contents of the can proved to be nothing better than discarded stems of mushrooms—but there was nothing to show this on the label."

When the food law went into effect in North Dakota there was but one brand of catsup which was pure—that is—free from chemical preservatives and coal tar coloring matters. Many of the catsups offered for sale were made from the waste products of canners' pulp, skins, ripe and green tomatoes, starch paste in large quantities, coal tar colors, chemical preservatives, usually benzoate of soda or salicylic acid, the whole highly spiced and not always free from saccharin. In many instances the base was largely pumpkin."

"Seventy per cent of cocoa and chocolate were found to be adulterated, the cheaper grades having some flavoring matter such as synthetic vanilla added to improve the quality, some so badly adulterated that the beverage made from them would never be suspected of having been produced from the cocoa bean."

I quote from an article by Senator McCumber :

"Glucose, the king of personators, does duty in a thousand ways. Colored and flavored with a little Timothy seed, it forms the great bulk of our strawberry jellies. A dash of different flavoring and it is by magic transformed into raspberry, apple, or any other kind of jelly, it constitutes the greater part of our strained honey; even the bees themselves are readily deceived and empty readily barrels full of it when near their hives. It has driven much of the pure cane molasses and syrups out of the market. There is more Vermont maple sugar sold every year than that State can produce in ten years. Glucose, burnt sugar, and a very little poor molasses, with flavoring, feeling the demand. Hake or any other kind of fish cured and put up in packages, comes to our table as codfish."

A great proportion of our ground spices are mere imitations. Vanilla beans and nutmegs have their oils extracted and are then put upon the market. Apple parings, apple cores and rotten apples go into a vat, and from that extraction every known kind of jelly is made."

"All kinds of wine are made from a cheap basis, flavored and colored to imitate the genuine article. Dozens of brands are drawn from the same cask, priced in the market according to the value of the brand imitated. Cotton seed

oil and other oils, with the importer's brand showing a French or Italian source, are palmed off for olive oil. The filling has been driven out of cheese, but it has lodged in other articles of food. This cheese was manufactured by first removing the butter fat from the milk by an ordinary separator. This was made into butter and sold, and an amount equal to the weight of the butter in deodorized lard was substituted for the butter fat. Now the same thing is done with condensed milk—the butter fat is extracted from the milk and an equal amount of hog fat substituted for it.

"Ice cream is made without any cream at all, condensed skim milk, condensed until it is as thick as cream and mixed with neutral lard. Even cream purchased for our table is manufactured from skimmed milk with condensed milk added to thicken it to the proper consistency. Chocolate cream candies are filled with this same emulsion.

"Cider vinegars are for the most part manufactured articles without a drop of apple juice. Drugs prescribed for the sick are adulterated and misbranded."

Last year the New Orleans paper printed the following :

"The surgeons of the New Orleans Eye, Ear, Nose and throat Hospital have noted the great number of patients entering that institution from the country around New Orleans suffering from partial or total blindness. An investigation disclosed the fact that a cheap antiseptic containing a large amount of wood alcohol has been used throughout Louisiana. The city chemists found 30 per cent. at least, of methyl alcohol in one of these specimens, rendering them totally unfit for internal administration, as methyl alcohol when taken internally acts directly upon the optic nerve. The majority of persons affected will not fully recover their eye sight."

An article from the New York *Evening Post* of January last is along the same lines

"Of 375 samples of phenacetin bought from as many retail druggists in the City of New York, 315 were found to be adulterated with acetanilid a drug having a depressing action on the heart. Of these adulterated samples 267 were mixtures of phenacetine and acetanilid, while others were pure acetanilid."

The paper states :

"The seriousness of the adulteration will be comprehended when it is recollected that phenacetin is an antipyretic so commonly used that it may be practically considered a household remedy. Furthermore it is almost universally dispensed by druggists all over the country without a physician's prescription, the usual dose being from five to ten grains. The wholesale price of phenacetin is approximately \$1 per ounce, while that of the adulterant—the substituted acetanilid—is 25 cents per pound. Hence the financial inducement to make the substitution is consequently great."

There is absolutely no reason why those who buy food or any other commodity should be cheated into purchasing something different from what is purported to be sold to them.

There are a large number of materials which have come into existence in recent years, that serve in their way an admirable purpose, yet are not desirable from the standpoint of food supplies. Formaldehyde is an excellent preservative as any undertaker will be willing to affirm, but when fish, meat, milk, or cream or any other substance is prevented from

undergoing deterioration by an infusion of formaldehyde, it is very likely that the food thus treated cannot pass through the process of human digestion without harm to the person who eats it. Beer may be kept from decomposing by using salicylic acid, but those who drink it thus treated subject their physical system to a strain better avoided. No one would knowingly purchase for his own use a beverage or a food which he knew contained some harmful ingredient and the brewer would be the last person in the world to comply with the law by advertising the fact in plain English on the label of each bottle that he sold.

There are many adulterants that are harmless but used to give an attractive appearance to the article in which they are blended. There is hardly any butter sold that is not colored and it is exceedingly inconsistent on the part of those engaged in the dairy business to insist that the makers of oleomargarine shall be prohibited from using coloring in the making of their goods, while coloring matter is freely used in the dairies to imitate June made butter, in that made any month of the year and often dyed a deep saffron totally unlike the delicate yellow it should be. The coal tar products are freely used in coloring sausages and preserving meats, the addition of nitrate of soda, nitrate of potash besides preserving the meats also intensifies the color. Potassium nitrate is so uniformly employed by all packers of meat as to be considered a normal constituent of the meat.

These conditions open up a vast field for discussion. Sophistication is an art and while it may only cheapen and may not be injurious to the health, it is a fraud. Milk diluted is not dangerous, but it lacks nourishment, hence it is a fraud, but when it is preserved by acid, it then becomes a menace to health. Jellies and jams manufactured by gelatin, vegetable dyes, and natural acids are simply frauds, but when made of acids are a menace to health. When any article is mixed or blended with another so that it reduces the nutritive strength of that article the consumer does not get what he pays for. The same is true of spices, the adulteration of which has become most scientific, wheat corn, ground bark, ground cocoa shells, mixed with ginger, clove, allspice, in fact, in all spices to a large per cent.

On examination canned goods are found to contain salts of tin and lead, the inside of the can often corroded. Dried and old peas are canned and labelled early June peas. The law provides that these goods shall be labelled "Soaked Goods" but many are found not so marked and if marked so illegible as not to be apparent. Tripe, oysters, salt fish are preserved with boracic acid. Bologna colored with aniline dyes (Bismark brown the most common). Even nuts do not escape the beautifying process, last year's pecans are colored a rich reddish brown to look like the fresh nut. A preparation called preservaline sold in boxes is advertised as an excellent preservative for cider, vegetables, fruits, jellies, jams, mince meat and on examination is found to be salicylic acid. According to directions three measures of the preservative added to one quart of water is all that is needed to preserve the article with no necessity to cook the

fruit at all. An example of commercial fraud pure and simple is egg substitute called N'egg. The package contains two little boxes, one of white the other of yellow powder, advertised to contain nutritive value equivalent to the white and yolks of one dozen fresh eggs, alleged to differ in composition as whites and yolks of eggs, but consisting solely of tapioca starch in the white box and the same ingredient in the yellow box with the addition of Victoria yellow coloring matter.

There are so many drugs below the standard that the physician does not know, when his remedy fails, whether it is the person who does not respond to the action of the drug or if the drug is not what he supposes it is: aqua ammonia, powdered opium, opium tincture, iodine tincture, the precipitate of sulphur, with innumerable others.

The law is that all poisons used for external use, especially the mercuries, shall bear the red label marked poison with the antidote on the label. The law is evaded by placing the red label on the bottom of the bottle. Purely vegetable tonics recommended for inebriates are found to contain 41.500 of alcohol. Sulphur bittys advertised as having no alcohol contains twenty five per cent and no sulphur. Opium cures contain morphine, fig syrup is innocent of figs, prune extract has no prunes but aloes and so on down the list.

Brands of clam bouillon are invariably nothing but preparations of salicylic acid. Santiago West India Lime juice is a mixture of hydrochloric and salicylic acid with no lime juice at all.

When the German Government four years ago applied a new set of restrictions to the American meat products, one of these was based on the theory that borax was unhealthful. A great protest went up from packers and their sympathizers, saying the excuse was a mere pretence, the real object was to hurt our foreign trade. Now, after careful investigation our Government vindicates the German contention. The law went into effect last June and great good has been accomplished based in part on the retaliatory theory that, "no country shall export to us any article of food or drink under ban of their law. What they let their people eat they may send to us." The Department of Agriculture was authorized by an act of Congress for the year ending June, 1903, to make an investigation to determine the effect of certain preservatives upon digestion and health.

The necessity for the investigation was found in the very general use of certain chemical compounds for preserving foods and of coloring matters for imparting to foods a tint resembling nature, or for producing colors pleasing the eye of the consumer. The use of preservatives is as old as civilization, the more important being sugar, salt, vinegar, wood smoke and alcohol. One of the chief characteristics of modern chemical preservatives is that it is often almost without taste or odor and for this reason its presence would not be noticed by the consumer in the quantity used, while nearly all in a concentrated form would reveal themselves by either odor or taste, as sulphurous acid, or salicylic acid.

The Secretary of Agriculture was deemed the proper official to make the investigation as the interests over his department are associated alike with the producer, manufacturer and consumer and any favoritism toward either quarter would be eliminated. The investigations were carried out upon volunteers since no one could be forced to undergo experimental treatment, the great disadvantage being the absolute control of "the experimenter." The young men were placed upon their honor, neither watched nor confined, were men of approved character, of college training and many of them engaged in scientific pursuits, and it was provided that during periods of observation they should continue in their usual vocations. Each applicant was required to fill out a blank describing the usual conduct of his daily life, name, address, age, any sickness within a year, condition of digestion, use of tea and coffee, use of tobacco, use of wines, beer, or alcoholic beverages, condition of bowels, the hours for defecation and urination, the hours of retiring and average hours of sleeping, the kind and amount of physical exercise. The applicant was selected from this data and the ability to do long and continued work was determined by this and his physical condition. All had passed the civil service examinations so that their moral character, sobriety, reliability, truthfulness and honesty, were vouched for. The kitchen, laboratory and dining room facilities made it necessary that twelve persons should be the maximum number under observation at a time. The hours for meals were breakfast 8 a. m., lunch 12 a. m., dinner 5 30 p. m., these hours conforming more nearly to their usual meal times. As the men were kept under observation from thirty to seventy days it was best to make the bill of fare as varied as possible, meat, beefsteak, beef, lamb, veal chops, pork, chicken, turkey, eggs twice a week, butter, milk, cream, all of the best quality, coffee and tea in moderate quantities. Desserts of custards, rice puddings, ice cream, with liberal supply of fruits. The bill of fare was changed every day but recurred regularly in seven day periods, making work uniform for the cook and steward both in the preparation of food and quantity used and supplied. The experiments with borax and boric acid were divided into five series of observations, three divisions of each the fore period, the after period. The fore period determined the quantity of food required to maintain the normal weight at constant figures, and normal metabolism as a basis of comparison, the quantity being so varied that by ten days there was no marked change in weight. Borax was selected as the first preservative to be experimented with as being most commonly used.

In the first part of the experiment it was mixed with the butter, but later it was given in capsules for when it was learned that a certain article of food contained it a natural dislike was developed for that thing, due to the mental attitude, and as it was known it was to be administered there was no reason why it should not be given in capsules and thus not interfere with any article of food. Small quantities were given in the beginning and increased to the limit of toleration and for each variation of

quantity a separate study of the digestive processes was made. During the entire time the food was weighed, measured and analyzed, the excreta weighed and analyzed. The Surgeon General of the Public Health and Marine Hospital detailed a physician to make physical and medical examinations once a week with symptoms noted, and if they fell ill incidentally or independently of their work, he prescribed for them. The examination of the blood was made regularly, temperature taken before and after dinner each day, pulse rate noted, the weight of the body made on platform scales with agate bearings, so that any slight difference, of even 10 grams, could be noted. All food analyzed, potatoes cooked without seasoning, bread purchased of one baker and made of one variety during the entire period. The determinations were made of water, nitrogen, phosphoric acid, fat, heat of combustion and analyses made of the urine and excreta, also the effect of regular habits and the mental attitude noted. The preservative was given in quantity of one-half a gram at the beginning and increased to five grams a day, the quantity given during the whole period being 607.4 grams and of this quantity 468.6 grams were recovered in the urine. The after period was devoted to getting or putting the person back to his normal condition.

The general conclusions based upon the data show that borax and boric acid taken in the quantity stated tend to produce slight loss of body weight, and in the after period the majority continued the loss of weight, only a few showing a slight tendency toward recovery of normal weight. The tables showing the effect upon hemoglobin, number of red corpuscles, the calories, quantity of nitrogen, phosphoric acid, specific gravity, total solids, fats and volume of urine eliminated were very interesting. The medical symptoms of the cases show in most of them a tendency to a diminished appetite, feeling of fullness and uneasiness in stomach, often resulting in nausea, a dull persistent headache, some sharp, well defined pains not persistent. If administered continuously some time 4 or 5 grams a day there is total loss of appetite, with inability for work of any kind. Four grams a day was found to be the limit beyond which the normal man may not go, 3 grams a day can be tolerated by many and while injurious effects were felt they were able to continue work. While on the whole 1-2 gram a day is too much to receive regularly for it does create disturbance of appetite, of digestion and of health.

The sole objects of adulteration are to sell an inferior article at the price of a superior one, to preserve an article so that it may be sold after preservation as a fresh article and at as high a price, if not higher. The federal nation must recognize the existence of the evil of food adulteration throughout the land. It cannot shut its eyes and conscience to the fact, and strenuous exertions must be made to stamp out the food frauds.

If the nation will strike at the source of the evil by prohibiting commerce in adulterated and falsely branded foods in every state of the United States, there would be little difficulty in freeing our commercial field of counterfeit foods and drugs. The Government of the U. S. has

passed several laws to protect the integrity of its currency and coin. If the Government compels me to pay every purchase and obligation with coin of full weight and value, is it not the concurrent duty of that Government to protect me against fraud and imposition and see that I have in return what I am paying for and not a spurious article worth less than my money value, and what is worse, may also be detrimental to my health and also of those dependent upon me. The duty of the Government is not fulfilled so long as it does not protect me from these frauds. The national law should reach the manufacturers and the importers. It should deprive no man of what he desires to purchase, but it should compel all goods to unmask and simply compel all articles of food to be bought and sold for what they actually are. Such a law could easily be put into effect the result upon the morals and health of the people would be beyond computation and all business would be made legitimate.

THE COAL TAR LEMON PIE

(*Baltimore American*)

(A pure food commission in Chicago recently dissected a lemon pie bought out of stock, and found it to contain neither lemon, butter nor sugar. The principle ingredients were various forms of coal-tar and glucose.—News Item)

They're making cotton clothes from wool,

And iron things from wood ;

They're making goodies out of scraps,

And nasty things from good ,

They're making paper things from rags.

And money out of "sky,"

But this is sure the worst as yet,

A coal-tar lemon pie.

They're making combs from kerosine,

And pearls from olive oil ;

They're making Belgian hares of cats,

And syrup out of soil ;

They're making buckwheat cakes from paste,

And pumice stone—O, my ;

But this is sure the time to kick—

A coal-tar lemon pie.

They're making clothing out of glass,

And butter out of grease ;

While maple sugar, made from sand ;

Is commoner than geese ;

They make from scraps and chicken-bones

Most terrapin you buy ;

But anything we'll stand except

A coal-tar lemon pie.

The North American Journal of Homœopathy February, 1906.

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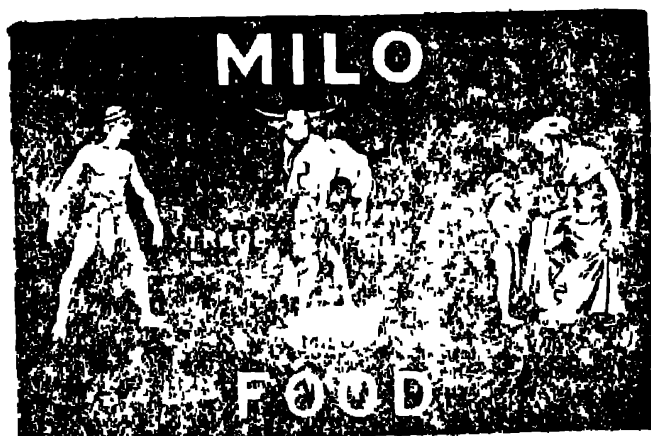
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[No. 5.

SANITATION OF CALCUTTA.

III.

CAPTAIN HAMILTON'S ACCOUNT OF CALCUTTA.

In Sir Ranald Martin's paper, the topography of Calcutta and its Suburbs, reference is made to Pizkerton's Voyages and Travels. The eighth volume of the book, published in 1811, contains an account of the East Indies, being the observations and remarks of Captain Alexander Hamilton, who spent his time there from the year 1688 to 1723. Chapter XXXIII :—*Treats of the Towns, Cities, Country and Customs of Bengal, particularly of those, near the famous Ganges; with some historical accounts, ancient and modern, of Fort William.*

"Piply lies on the banks of a river, supposed to be a branch of the Ganges, about five leagues from that of Ballasore, formerly it was a place of trade, and was honoured with English and Dutch factories. The country produces the same commodities that Ballasore does, at present it is reduced to beggary, by the factory's removal to Hughly and Calcutta, the merchants being all gone. It is now inhabited by fishers, as are also Ingellie, and Kidgerie, two neighbouring islands on the west side of the mouth of Ganges. These islands abound also in tame swine, where they are sold very cheap for I have bought one-and-twenty good hogs, between 50 and 80 pounds weight each for 17 ruppes or 45 shillings sterling. These islands, and

forth dangerous sand-banks, that are both numerous and large, and make the navigation out and into Hughly river, both troublesome and dangerous, and after we pass those islands, in going up the river, the channel for shipping is on the east-side, and several creeks run from the channel among a great number of islands, formed by different channels of Ganges, two of which are more remarkable than the rest, viz., Coxes and Sagor islands where great ships were obliged to anchor to take in part of their cargoes, because several places in the river are too shallow for great ships to pass over, when their whole cargoes are a-board.

There are no inhabitants on those islands, for they are so pestered with tigers, that there could be no security for human creatures to dwell on them; nay it is even dangerous to land on them, or for boats to anchor near them, for in the night they have swimm'd to boats at anchor, and carried men out of them, yet among the Pagans, the island Sagor is accounted holy, and great numbers of Jougies go yearly thither in the months of November and December, to worship and wash in salt-water, though many of them fall sacrifices to the hungry tigers.

The first safe anchoring place in the river, is off the mouth of a river about twelve leagues above Sagor, commonly known by the name of Rogues river, which had that appellation from some banditti Portuguese, who were followers of Sultan Sujah, when Emirjemal, Aurengzeb's general, drove that unfortunate prince out of his province of Bengal; for those Portuguese having no way to subsist, after their master's flight, to the kingdom of Arackan, betook themselves to piracy among the islands, at the mouth of Ganges, and that river having communication with all the channels from the Xatigam to the westward, from this river they used to sally out, and commit depredations on those that traded in the river of Hughly.

About five leagues farther up, on the west side of the river of Hughly, is another branch of the Ganges, called Ganga; it is broader than that of Hughly, but much shallower and more encumbered with sand-banks; a little below the mouth of it the

Danes have a thatched house, but for what reasons they kept an house there, I never could learn.

Along the river of Hughly there are many small villages and farms, interspersed in those large plains but the first of any note on the river's side, Culculla, a market town for corn, coarse cloth, butter and oil, with other productions of the country ; above it is the Dutch Bankshall, a place where their ships ride when they cannot get farther up for the too swift currents of the river. Culculla has a large deep river that runs to the east-ward, and so has Juanpardo, and on the west side there is a river that runs by the back of Hughly Island, which leads to Radnagur, famous for manufacturing cotton cloth, and silk romasals, or handkerchiefs. Bussundri and Tresindi, or Gorgat and Cottrong are on that river, which produce the greatest quantities of the best sugars in Bengal.

A little higher up on the east side of Hughly river, is Ponjelly, a village where a corn mart is kept once or twice in a week, it exports more rice than any place on this river ; and five leagues farther up on the other side is Tanna fort, built to protect the trade of the river, at a place convenient enough, where it is not above half a mile from shore to shore ; but it never was of much use, for in anno 1686, when the English Company quarrelled with the Mogul, the Company, had several great ships at Hughly, and this fort was manned in order to hinder their passage down the river. One 60 gun ship approaching pretty near the fort, saluted it with a broad-side which so frightened the governor and his myrmidons, that they all deserted their post, and left their castle to be plundered by the English seamen. About a league farther up on the other side of the river, is Governapore, where there is a little pyramid built for a landmark, to confine the Company's colony of Calcutta, or Fort William. On that side, and about a league farther up, stands Fort William.

The English settled there about the year 1690, after the Mogul had pardoned all the robberies and murders committed on his subjects. Mr. Job Channock, being then the Company's

agent in Bengal, he had liberty to settle an emporium in any part on the river's side below Hughly, and for the sake of a large shady tree chose that place, though he could not have chosen a more unhealthful place on all the river; for three miles to the north-eastward, is a salt-water lake that overflows in September and October, and then prodigious numbers of fish resort thither; but in November and December, when the floods are dissipated, those fishes are left dry, and with their putrefaction affect the air with thick stinking vapour, which the north-east winds bring with them to Fort William that they cause a yearly mortality. One year I was there, and there were reckoned in August about 1200 English, some military, some servants to the Company, some private merchants residing in the town, and some seamen belonging to shipping lying at the town, and before the beginning of January there were four hundred and sixty burials registered in the clerk's book of mortality.

Mr. Channock choosing the ground of the colony, where it now is, reigned more absolute than a Rajah, only he wanted much of their humanity; for when any poor ignorant native transgressed his laws, they were sure to undergo a severe whipping for a penalty, and the execution was generally done when he was at dinner, so near his dining-room that the groans and cries of the poor delinquent served him for music.

The country about being overspread with Paganism, the custom of wives burning with their deceased husbands, is also practised here. Before the Mogul's war, Mr. Channock went one time with his ordinary guard of soldiers, to see a young widow act that tragical catastrophe; but he was so smitten with the widow's beauty, that he sent his guards to take her by force from her executioners, and conducted her to his own lodgings. They lived lovingly many years and had several children; at length she died, after he had settled in Calcutta; but instead of converting her to Christianity, she made him a proselyte to Paganism, and the only part of Christianity that was remarkable in him, was burying her decently, and he built

a tomb over her, where all his life after her death, he kept the anniversary day of her death by sacrificing a cock on her tomb, after the Pagan manner; this was and is the common report, and I have been credibly informed both by Christians and Pagans, who lived at Calcutta under his agency, and the story was really true matter of fact.

Fort William was built an irregular tetragon, of brick and mortar, called Puckah, which is a composition of brick-dust, lime, malasses, and cut hemp, and when it comes to be dry, is as hard and tougher than firm stone or brick; and the town was built without order, as the builders thought most convenient for their own affairs, every one taking in what ground best pleased them for gardening, so that in most houses you must pass through a garden into the house, the English building near the river's side, and the natives within land.

The agency continued till the year 1705, that the old and new Companies united, and then it became a split government, the old and new Companies servants governing week about, which made it more anarchical than regular. Sir Edward Littleton was agent and consul for the new Company at Hughly, when this union of the Companies was made, and then he was ordered to remove his factory to Calcutta, and being of an indolent disposition, had let his accounts with the Company run behind. He was suspended, but lived at Calcutta till 1707, that he died there; he was the only president or precedent in the Company's service, that lost an estate of 700 pounds per annum in so profitable a post in their service.

The double-headed government continued in Calcutta, till January 1709, that Mr. Weldon arrived with the Company's commission to settle it at Bombay and Fort St. George, which were under the management of a governor and council, which those of the direction in England took to be a better way to promote their own creatures, as well as their own interest. His term of governing was very short, and he took as short a way to be enriched by it, by harassing the people to fill his coffers. There was one singular instance of it. A poor seaman had

got a pretty Mustice wife, a little inclined to lewdness in her husband's absence. She entertained two Armenians who were like to quarrel about sharing her favours, which coming to the governor's ears, he reprimanded them ; however, by the strong persuasion of 500 rupees paid in hand by one of them, he awarded him to have the sole right to her, and he carried her to Hughly, and bragged openly what his purchase had cost him, to the great credit and praise of the governor ; and when the poor husband returned, he was forced to submit to lose his mare, under the pain of flagellation ; yet he was very shy in taking bribes, referring those honest folks, who trafficked that way, to the direction of his wife and daughter, to make the best bargain they could about the sum to be paid, and to pay the money into their hands. I could give many instances of the force of bribery both here and elsewhere in India, but am loth to ruffle the skin of old foes.

About fifty yards from Fort William, stands the church built by the pious charity of merchants residing there, and the Christian benevolence of sea-faring men, whose affairs call them to trade there ; but ministers of the gospel being subject to mortality, very often young merchants are obliged to officiate, and have a salary of 50 l. per annum added to what the company allows them, for their pains in reading prayers and sermons on Sundays.

The Governor's house, in the fort, is the best and most regular piece of architecture that I ever saw in India. And there are many convenient lodgings for factors and writers, within the Fort, and some store houses for the Company's good, and the magazines for their ammunition.

The Company has a pretty good hospital in Calcutta where many go in to undergo the penance of physick, but few come out to give account of its operation. The Company has also a pretty good garden, that furnishes the Governor's table with herbage and fruits, and some fish-ponds to serve his kitchen with good carp, calkops, and mullet.

Most of the inhabitants of Calcutta that make any tolerable

figure, have the same advantages; and all sorts of provisions, both wild and tame, being plentiful, good and cheap, as well as clothing, make the country very agreeable, notwithstanding the above mentioned inconveniences that attend it.

On the other side of the river are docks made for repairing and fitting their ships bottoms, and a pretty good garden belonging to the Armenians, that had been a better place to have built their fort and town in, for many reasons. One is, that, where it now stands, the after-noon's sun is full in the fronts of the houses, and shines hot on the streets, that are both above and below the fort; the sun would have sent its hot rays on the back of the houses, and the fronts had been a good shade for the streets.

Most gentlemen and ladies in Bengal live both splendidly and pleasantly, the fore-noons being dedicated to business, and after dinner to rest, and in the evening to recreate themselves in chaises or palankins in the fields, or to gardens, or by water in their budgeroes, which is a convenient boat, that goes swiftly with the force of oars; and, on the river, sometimes there is the diversion of fishing or fowling, or both; and before night, they make friendly visits to one another, when pride or contention do not spoil society, which too often they do among the ladies, as discord and faction do among the men. And although the conscript fathers of the colony disagree in many points among themselves, yet they all agree in oppressing strangers, who are consigned to them, not suffering them to buy or sell their goods at the most advantageous markets, but of the governor and his council, who fix their own prices, high or low, as seemeth best to their wisdom and discretion: and it is a crime hardly pardonable for a private merchant to go to Hugly, to inform himself of the current prices of goods, although the liberty of buying and selling is intirely taken from him before.

The garrison of Fort William generally consists of two or three hundred soldiers, more for to convey their fleet from Patana, with the Company's saltpetre, and piece goods, raw

silk, and some opium belonging to other merchants, than for the defence of the fort, for as the Company holds their colony in the fectail of the Mogul, they need not be afraid of any enemies coming to dispossess them. And if they should, at any time, quarrel again with the Mogul his prohibiting his subjects to trade with the Company, would soon end the quarrel.

There are some impertinent troublesome Rajahs, whose territories lie on the banks of the Ganges between Patana and Cassembuzzar who, pretend a tax on all goods and merchandize, that pass by, or through their dominions on the river, and often raise forces to compel payment; but some forces from Fort William in boats, generally clear the passage, though I have known some of our men killed in the skirmishes.

In Calcutta all religions are freely tolerated, but the Presbyterian, and they brow-beat. The Pagans carry their idols in procession through the town. The Roman Catholics have their church to lodge their idols in, and the Mahometan is not discountenanced; but there are no polemicks, except what are between our high church men and our low, or between the governor's party and other private merchants on points of trade.

The colony has very little manufactory of its own, for the Government being pretty arbitrary, discourages ingenuity and industry in the populace; for, by the weight of the Company's authority, if a native chancés to disoblige one of the upper-house, he is liable to arbitrary punishment, either by fine, imprisonment, or corporal sufferings. I will give one instance out of many, that I knew of the injustice of a governor of the double-headed government in *anno* 1706.

There was one Captain Perrins master of a ship, who took up about 500L. on respondentia from Mr. Ralph Sheldon, one of the governors, on a voyage to Persia, payable at his return to Bengal. Perrin having dispatched his affairs in Persia sooner than he expected, called at Goa on his way home, and bought a Surat built ship very cheap, and carried her to Calcutt, and took in a quantity of pepper for the Bengal market; and

having brought in his other ship good store of Persia wines, called at Fort St. George to dispose of what he could there; but finding no encouragement from that market, carried it into Bengal. On his arrival he complimented Mr. Sheldon with the offer of his pepper and wine; but he declined meddling with that bargain, farther than with as much of the pepper, at the current price, as would balance his account of principal and respondentia. Accordingly Perrin delivered so much pepper, and, on the delivery required his bond up; but the Governor told him, that he being a fellow troubled with the spirit of interloping in buying goods, and taking freights where he could best get them, he would keep that bond as a curb on him, that he should not spoil his markets for the future. Poor Perrin used all his rhetoric to get his bond up, but to no purpose; and the Governor moreover gave his wine a bad name, so that he could not dispose of that either, and all this oppression was in order to straiten him, that he might be obliged to sell his new purchased ship, at a low price, to him and his associates, which, at last, he was obliged to do, holding a quarter part in his own hands, to secure the command of her to himself, which, after all, he could hardly do. Perrin made his complaint to me, but I was in no condition to assist him, because I, having three or four large ships at Bengal, was reckoned a criminal guilty of that unpardonable sin of interloping; however, I advised Perrin to comply with his inexorable master, on any terms of agreement whatsoever, which he endeavoured to do, that he might, at least, keep the command of his ship, where he was so much concerned, and had hardly done it, but by accident. One day meeting me on the green near the fort, he stopped me to relate his grievance and begged, that, if he was turned out of his own ship, he might have an employ in one of mine, which I promised he should.

Sheldon espied us, out of a window, holding a long confabulation, and being impatient to know about what, sent a servant to call Perrin, and he, obeying the summons, was interrogated about what our discourse was; and he told the promise I made

him. Sheldon told him, that he was as capable to employ him as I could be. Perrin answered, that he knew that, and wished that he would be as willing too; so Sheldon promised that he should command his own ship to Persia.

But the wine still lay unsold, though it was then scarce in Bengal, but the name that it got, first at Fort St. George, and afterward in Fort William, stuck so fast to it, that none of it would go off at any price, so I advised him to carry it off in the night, in my boats, on board of one of my ships, and I would try if I could serve him in selling it, which accordingly he did; and two gentlemen of the council, being that season bound for England, coming one day to dine with me, I treated them, and the rest of my company with that Persia wine, which they all praised, and asked me where I got it. I told them, that, knowing that good wines would be scarce at Bengal that year I had provided a good quantity at Surat, from whence I had come that season. Every one begged that I would spare them some chests, which I condescended to do as a favour, and next day sent them what they wanted, at double the price the owner demanded for it, while he had it, and so got off above 120 chests, which enabled Mr. Perrin to satisfy most of his creditors.

Sheldon provided a stock and freight for Perrin to Persia and put on board some rotten long pepper, that he could not dispose of no other way, and some damaged gunnies, which are much in use in Persia for embalming goods, when they are good in their kind; but *volens volens*, Perrin must take them, and sign bills of lading for goods; and yet, after he was ready to sail, he had been stopped, if he could not raise the sum of 2,500 rupees, to discharge a bill, that, at that time, became due, and was indorsed to Sheldon. I also helped him out of that difficulty, and took his bond for the sum, bearing interest from that date, at the current interest of one per cent. per mensem; so Perrin proceeded on his voyage to Persia, but called at Calcutt in his way home again, and laid up his ship there, and took protection of a Nayer, with the

full hand of 11,000*l.* sterling of Bengal money, and wrote to Mr. Sheldon, that he might keep his former bond, and he would take care of his part of the stock in his hand. He also wrote to me, that he would take particular care to reimburse me; but, in short time after, he died, and his effects came into the English chief's hands, who detained them several years, denying that ever he had any, till governor Boone came to the Government of Bombay in 1715, and then he made a lame account. I have been so prolix and particular in this story, that it may form an idea of the deformity and dismal image of tyranny and villainy supported by a power, that neither divine nor human laws have force enough to bridle or restrain.

The Company's colony is limited by a land-mark at Governapore, and another near Barnagul, about six miles distant; and the Salt-water lake bounds it on the land side. It may contain, in all, about 10 or 12,000 souls; and the Company's revenue are pretty good, and well paid. They rise from ground-rents and consulage on all goods imported and exported by British subjects; but all nations besides are free from taxes.

EDITOR'S NOTES.

Differential table in Sore Throat.

The following differential diagnosis of the sore throats is taken from the *North American Journal of Homœopathy* for April :

ACUTE ERYTHEMA.	FOLLICULAR TONSILITIS.	DIPHTHERIA.
General erythema. Whole faucial cavity red and congested. No patches. Uvula red and may be edematous. Some general malaise.	Onset sudden, usually with chill. Rapid rise in temp to 103-104 Quick pulse Unusual amt. of pain in all parts of body, espec. back and head Tonsils more swollen, red and exudate chiefly in the crypts, but may extend over surrounding parts, and is easily mopped off. No bleeding surface underneath No glandular enlargements to speak of. Sudden decrease in symptoms No Klebs Loeffler bacilli present.	Onset gradual, without chill n temp. Pulse less rapid. Aching in bones and head less marked Tonsils less swollen and red membrane on any part of tonsils or surrounding structure. Mem. more tough, not easily detached and leaves a raw, bleeding surface. Glandular enlargement. Gradual increase in all symptoms Klebs Loeffler bacilli present Albumin in urine.
SPECIFIC.	TUBERCULAR.	PARENCHYMATOUS.
General erythema. Whole cavity red and congested. More marked in areas. Small or large patches in these areas with well-defined edges, covered with a dirty, grayish, colored mucous deposit. Usually history of having sore throat for some time. Very little, if any, rise in temp. History of sore? History of rash. Glandular involvement.	General pallor Parts infiltrated or areas of ulceration with ragged edges. Rarely primary lesions. History of long involvement. General loss of flesh. Tubercle bacilli present in sputum. Rapid, peculiar pulse.	Sudden onset. Usually with chill. High tem, rapid pulse. Pain localized. Sudden swelling, which increases until swallowing is impossible. Cannot open mouth well, uvula and soft palate very edematous. Suffering intense. Great relief from opening or spontaneous rupture of abscess.

Modern Vaccination.

Dr. W. J. Hawkes, thus says in the *Homœopathic Recorder*, March 15 :

"While I have vaccinated during all my professional life until within a few years, without observing in my own practice serious results other than very ugly sores, I must go on record as being opposed to the process as at present imposed by law upon school children.

Theoretically it can hardly be safe to inject into the blood matter procured in the manner the vaccine virus of commerce is, even where there is no possibility of its having been carelessly and improperly prepared. But it is a recognized fact that there are degrees of quality in that offered for sale. No physician knows, nor has any means of knowing, whether or not the stuff he buys is as represented.

The question of adulterated foods and medicines is an open and public one, and is at present being freely discussed in the public press. This discussion implies cupidity or carelessness on the part of manufacturers and dealers. But have we good reason to believe that the manufacturers and dealers in vaccine virus are more careful and honest? When there is so much concern and excitement upon the question of impurity in substances taken into the stomach where nature has provided such strong safeguards against innocuous matter, how much more should we be concerned about probably impure matter being injected into the blood circulation where absolutely no natural safeguards have been provided?

Theoretically, in these days of excellent and universal aseptic teaching and practice, the injection of the product of disease into the blood of the healthy with a notion of preventing possible disease seems, to say the least, absurd. Practically, we have the evidence of thousands that it is injurious. But what are the evidences that, even if harmless, it accomplishes what its advocates claim for it.

They are: First, that it prevents small-pox; and second, that statistics show that small-pox has decreased wherever vaccination has been practiced.

In regard to the first claim, it is only necessary to review medical history to know that, if vaccination prevents small-pox at all it is for only a brief and very uncertain period.

In regard to the second claim that small-pox has generally decreased wherever vaccination has been practiced, because of vaccination, it is only necessary to call attention to the fact that all other contagious diseases have decreased to at least as great a degree during the same period.

To a reflecting and unprejudiced mind this recognized decrease in all such diseases may, therefore, as well be attributed to vaccination as it is in small-pox.

Yellow fever in Havana and Panama has been practically annihilated; Asiatic cholera, and the plague likewise; but not by vac-

cination. Cleanliness is the watchword, the great and only preventive.

The prime and, I believe, the only cause of all these dread diseases is *filth*, internal and external. Clean and keep clean—by eternal vigilance and obedience to the physical laws of hygiene—the body, internally and externally, and its environments, then all afflictions—rather, *infections*—will disappear; and that with recourse to the worse than doubtful expedient of such measures as vaccination or serum-therapy in any form.

In the *Los Angeles Times* of September 15, 1905, appear the two following items which are pertinent to the question. They are from one issue of one newspaper among the thousands published. The facts therein portrayed should damn vaccination for ever.

The explanation given by the officers of the Oakland School Board are puerile and ridiculous: "The boy must have scratched his sore arm with dirty fingers." As if every boy did not scratch his sores of all kinds with dirty fingers on all occasions. But that lame excuse will not clear them of responsibility for that boy's suffering and untimely death:

Dies of Lockjaw—Vaccination the Cause.

SAN FRANCISCO, September 14th.—(Exclusive Dispatch). Lockjaw resulting from vaccination has proved fatal to Elmer Thomas Wise, a seven-year-old boy of Oakland.

"It was vaccination that killed this boy," said Dr. Herrick, when questioned to-day, "and it was not." You can see by my call book here that I vaccinated this boy on August 14th last. He had never been vaccinated before, and the vaccination was successful. The boy went right on to school after that. I was called to see him on September 7th. The arm had become infected with tetanus bacillus from some outside contamination.

"The parents brought him into my office here the night of September 6th, saying he seemed indisposed. You know that was nothing extraordinary following vaccination. But I told them to keep him out of school for a few days. The next morning, when they sent for me, the lad's jaws were already set and I explained it all to the parents.

"You cannot really tell what it was. . He was certainly over the vaccination, but having an open sore, the scab having come off, it became infected, as I have said. Tetanus bacillus is usually found most frequently about stables and barns. He might have contracted infection in a dozen ways."

The Oakland school has rigidly enforced vaccination, and officers claim that the boy must have scratched his sore arm with dirty fingers to have become infected. They have vaccinated 105 children since the schools opened and all have recovered.

Death After Vaccination.

SANTA BARBARA, September 14th.—Henry Bonn, young son of J. J. Bonn, of Los Angeles, died in this city Tuesday morning, as a

result of a vaccination performed before the boy attended school and in compliance with the State School laws.

The boy went to school after the operation for several days but later developed tetanus, from which lockjaw resulted, ending in his death. His guardians say that he was vaccinated upon the demand of the teacher, but the school authorities deny that they had anything to do with the vaccination, and say that it must have been done on account of last year's regulations in regard to vaccination."

Knowing all these terrible facts against vaccination, it is our duty to fight the disastrous law of compulsory vaccination, which has ceased to exert its mischievous influence in England. We want that the same law should prevail in India. The existence of compulsory vaccination for the last thirty years in India is not only a failure, but has also added mischief and death. The last epidemic in Calcutta has shaken our faith and we are bound to side against it for the distressing consequences. The Indian Government led by the orthodox practitioners sees nothing but good out of it. The disastrous effects do not see the light. They should be published to awaken keen interest against the enforced mischief.

The Vermiform Appendix.

The interesting question of the value of the vermiform appendix is thus considered in *Lancet*, April 21.

"In a memoir published several years ago, Dr. J. A. Berry gave a detailed account of the histology of the true cæcal apex or the vermiform appendix in animals from pisces to anthropoids. In a paper read at the first International Federation Congress of Anatomy held at Geneva in August, 1905, and reproduced in the *Journal of Anatomy and Physiology*, vol. xl, part 3, p. 247, Dr. Berry, in conjunction with Dr. L. A. H. Lack, gives the results of his later researches in man, influenced in their direction by the important essay of Mr. C. B. Lockwood on Appendicitis, its Pathology and Surgery. Dr. Berry having in his first paper shown that lymphoid tissue is the characteristic feature of the appendix, in his present communication, aided by Dr. Lack, gives the results of his investigations as to the age at which lymphoid tissue first appears in the human appendix, for it does not exist in the newly born infant; next the age at which it tends, if at all, to disappear; and, lastly, discusses the question whether the obliteration of the human

appendix is a physiological or a pathological process. In regard to the first point whilst at birth there is practically no lymphoid tissue and lymph follicles are absent, within 14 days two well-marked lymph follicles have made their appearance and lymphoid tissue is scattered profusely throughout the whole of the mucosa. At six weeks there are from 8 to 12 lymph follicles, and the whole of the mucosa and submucosa, as is clearly shown in the reproduction of a photograph, is densely infiltrated with lymphoid tissue. At 32 weeks the vermiform appendix of man is to all appearances an actively functional gland. There are, then, to be met with in the plane of a transverse section from ten to 12 well-marked and large lymph follicles and about 160 tubular glands. The conclusion to be drawn regard to the first point is, then that whilst there is no lymphoid tissue in the caecal apex of the lower animals or in the appendix of man at the time of birth the portion of gut under consideration has become within a period of from one to six weeks an actively functional lymph gland. In regard to the second point the writers entertain no doubt that the lymphoid tissue does tend to disappear from the human appendix, for the number of lymph follicles visible in transverse sections of appendices will be found to become less numerous with advancing age, so that whilst six or seven follicles may be found in a transverse section of an appendix up to the age of 40 years, at the age of 60 years and above there are only traces or a total absence of them. The lymphoid tissue, however, never totally disappears. Lastly, they consider obliteration of the vermiform appendix is a pathological process. On these various grounds the vermiform appendix of man may be regarded as by no means a vestigial remnant or an organ in a state of retrogression but as an actively functional lymph gland. The writers consider that the passage of inert foreign bodies into the appendix is extremely rare, though the entrance of living organisms such as the trichocephalus is easily conceivable and has been several times demonstrated in cases where appendicitis was present."

The recent researches with regard to the vermicular appendix settle the question of its value as a lymphoid gland. The important question is, whether it serves the purpose of creating lymphocyte cells which help the destruction of bacilli which are so numerous in the intestines? Animal microbes are not destroyed in the

appendix, as tricocephalus has been observed to enter in it. The probable inference is that it may be a lymphoid gland serving other purposes except the germicidal faculty. Those functions remain to be observed. The next point is the disappearance of the appendix after sixty. Can it be called a pathological process? Can slow decay without any disease be called a pathological process? If synthesis be the construction of physiological force, then analysis may be said to be the abstraction of that vital energy.

Cremation and Sanitation.

The Lancet, April 21, records :

" UNDER the auspices of the Royal Sanitary Institute a provincial sessional meeting was held at Leicester Town Hall on March 24th, when the subject discussed was 'Cremation,' Colonel J. LANE NOTTER R.A.M.C., chairman of the council of the institute, presided.

The CHAIRMAN, in opening the proceedings, said that very decided sanitary advantages were connected with the practice of cremation and it was satisfactory to find that this method of disposing of the dead was growing in favour with all classes.

Dr. C. KILLICK MILLARD (medical officer of health of Leicester) read a paper on Cremation, giving at the same time various particulars relating to the crematorium of the Leicester Corporation. He said that the practice of disposing of the human body by fire was largely adopted by the ancients, and in Greece the right to be burnt was only denied to suicides, young infants, and persons struck by lightning. He then continued as follows—

GENERAL CONSIDERATIONS.

Some people prefer not to face this question because they are over-concerned about the fate of the body after death and fear to suggest any alternative to old-fashioned and familiar custom. Others, again, do not face it because they feel so little concern and do not care what happens to the body. Neither of these extremes, it seems to me, is right. It is true that the body after death is no more than empty shell from which the spirit—the living and immortal soul—has fled, but body is, nevertheless, sacred in death as well as in life, and it is surely our duty to provide for its reverent disposal by the method which, in the light of modern science and with due con-

consideration for the interests of the living, appears to us to be the best. The human body, in common with bodies of all living things, must inevitably, sooner or later, undergo disintegration and the highly complex organic substances of which it is composed must eventually be resolved into simpler compounds, such as water and carbonic acid, which are dissipated, leaving only a small amount of mineral residue behind. There are in this country only two practicable methods of disposing of the dead—namely, by inhumation or earth burial and by cremation. I hope to be able to show that of the two the latter—cremation—is much to be preferred, as being more sanitary, more scientific, and much less repulsive to sentiment. When the movement in favour of cremation was initiated in England about 30 years ago all sorts of objections were raised against it. It was asserted that cremation would create a nuisance and would encourage crime. It was also described as heathenish, revolting, and opposed to Christian teaching. The Cremation Society of England was formed in 1874, with Sir Henry Thompson as president, and it is undoubtedly due to the enthusiasm and dogged perseverance of the society that the change in public opinion has chiefly been brought about. The crematorium at Woking, the first in this country, was erected in 1879, and was for several years the only one in England. In 1892, however, a second crematorium was opened at Manchester, and this has been quickly followed by many others in various parts of the country, until at the present time there are no less than 13. The crematorium in Leicester was opened in 1902 but only one cremation took place in that year. In the following year there were five cremations, then eight and last year there were 15. Many of these were from neighbouring towns and almost all were of persons belonging to the upper or middle classes, this being the experience everywhere. As the fashion spreads, however, there is little doubt, I think, that the working classes will also avail themselves of it.

CREMATION ABROAD.

In several foreign countries the movement, begun about the same time as in England, is making equal progress. In Germany cremation was introduced in 1878 and is rapidly increasing; according to statistics recently published there are nine crematorium and 86 cremation societies, with a membership of more than 22,000. The

figures are remarkable inasmuch as cremation is forbidden in several of the German States. In the United States of America there are already no less than 26 crematoriums. In France there are four but the one in Paris is used to a far greater extent than the corresponding one in London. In Switzerland there are four and there are two in Sweden and one in Denmark. Other countries which possess crematoriums are Japan, Canada, and Australia, while one is also to be found at Buenos Ayres and one is being established in Bombay by educated Parsees, who object to the present method of exposing their dead on the Towers of Silence. As regards the number of cremations performed in Paris alone the total amounted to 3147 up to the end of the year 1903, and has since been considerably increased. In the United States of America no less than 3160 took place in one year (1902). In Germany the number in one year (1903) was 1074. In Great Britain there were 604 during 1905, as compared with 566 in 1904 and 476 in 1903, whilst the total for this country since the commencement of cremation up to the end of 1905 was 5020.

COST OF CREMATION AND LEGAL FORMALITIES TO BE OBSERVED.

Cremation is not necessarily so expensive as some people think. The amount of fuel required to consume the human body completely in the latest form of apparatus is only about half a ton of coke, costing a few shillings, and against the cost of fuel there is a set-off in the land required for the grave. The interest and sinking fund on the capital outlay in building a crematorium and cost of up-keep are serious items at present, whilst the number of cremations is small, but they will diminish greatly as the practice becomes popular.

The fees for cremation at the Leicester Crematorium are £2 2s. for a resident of Leicester and £5 5s. for a non-resident. In the case of a poor person the corporation may, if it thinks fit, remit a portion or the whole of this. In addition to the cost of the actual cremation there are the fees for the special medical certificates required by law. At present cremation is unfairly handicapped in this respect as no fee is payable for the nominal certificate of death which is all that is required before burial. There is a great contrast between the stringent precautions insisted upon before cremation and the notoriously inadequate precautions with which the law is at

present satisfied before burial. Briefly, the procedure before cremation under the Act of 1902 is as follows:—A statutory declaration has to be made on a prescribed form before a justice of the peace or commissioner of oaths to the effect that there is no known cause why cremation should not take place. Two medical certificates have to be obtained also on prescribed forms, one from the ordinary medical attendant of the deceased and the other—the confirmatory medical certificate—from a medical man who is of not less than five years' standing and holds some official position specified in the regulations, such as medical officer of health, certifying factory surgeon, medical referee under the Workmen's Compensation Act, or physician or surgeon to a hospital. The ordinary medical certificate of cause of death has to be given and the death registered as usual. Lastly, all certificates have to be submitted to the medical referee appointed by the cremation authority under the Act and no cremation can take place until authorised by him. The medical referee has full power to decline to allow a cremation to take place without stating any reason, and in any case where he thinks it desirable he may require that a post-mortem examination should be made. Although I think that some of the details of this procedure might be simplified with advantage, it is not really so formidable as it sounds and when all deaths have to be certified properly the difference in trouble between cremation and burial will be less marked.

THE COMPARATIVE ADVANTAGES OF CREMATION.

Arguments in favour of cremation as compared with inhumation may for convenience be divided into two classes—namely, those which are based (1) on sanitary grounds and (2) on sentimental grounds respectively.

1. The practice of inhumation in crowded graveyards in large towns is essentially insanitary and must be a menace to the health of the surrounding inhabitants. As regards intramural interments the revelations which come to light as the result of an inquiry made into this subject some 50 years ago smote the public with such horror that an Act of Parliament was passed prohibiting this form of interment. Of course where cemeteries are formed at a distance from the towns, out in the open country, as is the case at Leicester, the evil is greatly reduced, but the process of decay and corruption still goes on.

In considering the possible influence of a cemetery upon those living in the vicinity I am able to speak with some personal feeling as my own residence is in close proximity to the Leicester Cemetery, a narrow strip of only 40 yards separating my garden from the cemetery fence. In this cemetery, the subsoil of which is a stiff clay, some 2000 bodies, representing, perhaps, 200 tons of human remains, are deposited every year. As regards any nuisance arising from the process of cremation I can speak from experience, as nearly 40 cremations have already taken place at the Leicester Corporation Crematorium, which is only 300 yards from my house. I have never noticed the slightest nuisance, nor, indeed, from the nature of the apparatus, is any nuisance possible, even if it took place in a crowded neighbourhood. A light puff of smoke when the coffin is first introduced is all that reveals the fact that a cremation is taking place, and even this, I believe, can be overcome.

2 It is sometimes said that popular sentiment is against cremation. No doubt this is so at present because cremation is new and strange whilst interment is old and familiar; but whoever seriously considers the fate which inevitably befalls the body after it has been placed in its "last resting place" must assuredly admit that, apart from prejudice, sentiment should be in favour of cremation."

It can be said that almost all civilized countries have accepted cremation as the best method of disposal of the dead. The great significance of cremation in tropical towns is well worth the consideration of sanitarians. If cremation be not gradually introduced there is chance of converting half of populated cities of India into burial grounds. The Baniapooker ward of Calcutta may be said to be a place of the dead than of living. Christians are slowly adopting the method. Mahomedans are not up to the mark. Hindus have first introduced it, and among the Christians, the Druids of Wales had it in vogue. England owes the introduction to the Druids.

In Calcutta the first cremation of a European, was that of Hamergreen, a Bramho in the ordinary Hindu method at the Nimtala Burning Ghat. The next was that of the wife of our friend Dr. Jelovitz at that place. This created an immense sensation. The third was at Simla with regard to the body of Col. Harvey, a Director of the Indian Medical Service. The fourth was at that place with the body of Sir John Strachey, a Chief Justice of the Allahabad High Court. Calcutta has opened a crematorium at Baniapooker by the side of the new cemetery at the Lower Circular Road.

CLINICAL RECORD.

Foreign.

CLINICAL NOTES ON *ACID. CARBOLIC, ARGENT.**NIT., COCCULUS INDICUS, AND GAULTHERIA.*

By DR. PULLAR.

IN the following brief observations my aim is simply to emphasise certain points bearing upon every day practice, and to illustrate the therapeutic sphere of several drugs closely allied within a definite range, namely, in their action on the gastro-intestinal system. Although differing in remote effects, these agents have one feature in common, and that is the excessive production of flatus in the stomach and bowels. If we look at the provings of *Acid. carbol.*, *Argent. nit.*, and *Cocculus* we find symptoms due to this factor prominently marked. There is constant distension of the epigastrium, feeling of weight, belching of air, tympanites of the abdomen, dyspnea, and reflex pain of protean character arising from the same cause. The source of the accumulated flatus is usually defective metabolism and fermentative changes, but in a certain proportion of cases the distension would appear to be of nervous origin, and our prescription will, of course, be determined by individual characteristics. *Acid. carbol.*, as I have proved after using it in very numerous cases, covers a wide range of gastric symptoms. In nearly every form of dyspepsia I have obtained excellent results with this remedy, either intercurrently with others or alone. When the symptoms are those of incarcerated flatus associated with constipation ~~I have~~ often found it more efficacious than *Nux* or *Lycopod.* Under the stimulus of the drug the gaseous accumulation would appear to be pressed downward, thus acting as a *vis a tergo* in expelling the contents of the bowel. As an auxiliary in such conditions *Asafetida* is clearly indicated, and in some cases proves the specific, especially when we have to deal with the hysterical temperament. (I have usually given *Asafetida* in the 4x dilution.) We are all familiar with the fact that in several forms of dyspepsia reflex pains in the back between the scapular regions or radiating through the chest, are the most prominent symptoms, and in such instances I have found *Acid. carb.* more useful than any other medicine, the patient often experiencing immediate relief, and, after a short time, perfect immunity from the discomfort. The following is typical of numberless cases that have come under my notice:—

June 2, 1905.—Miss D., æt. 28, neuro-lymphatic temperament; has been subject to attacks of severe pain in epigastrium for last two years, aggravated during past three months. Has been dieted, and has resorted to various "specifics" (so called) without much benefit. Present symptoms: Constant feeling of weight in stomach, the discomfort increased by external pressure; paroxysms of acute pain between shoulders, darting round chest, with marked dyspnea at times; tongue furred in middle, dry, and slightly cracked; great thirst; breath foul; constipation, once or twice a week hard stool; rumbling in abdomen, with pain in left hypochondrium; frontal headache, worse on moving about. *Bryon.* 12 every three hours. 6th—Headache rather better, thirst and constipation less, but pains in epigastrium and back about the same. *Acid. carbol.* 3x every two hours during day, less frequently at night. 16th—Pain and dyspnea much relieved, feels better in every way. Continue. 22nd—Scarcely any pain since last report, bowels acting every alternate day now; tongue fairly clean; breath free from fætor. Continue *Ac. carb.* less frequently. July 4th—Free from pain; altogether better. 10th—Reports no return of pain, and feels quite well.

Passing now to a brief glance at *Argent. nit.*, which I would place next in importance as a gastric remedy, we find the exact analogue of cases met with constantly, the following being an example in point:—

February 2, 1905—Mr. W., æt. 48, nervous and excitable; complains of great pain at pit of stomach about two or three hours after meals; there is slight tenderness on pressure; always nausea after eating; gnawing, slightly burning pain in epigastrium, radiating to chest, relieved by eructation; wakes at night with feeling of oppression in stomach, sometimes followed by retching. Bowels somewhat relaxed in the morning. *Bismuth* 2x every three hours. February 7th—Has not felt so sick; pains unchanged. *Argent. nit.* 4x every three hours. 12th—Has been belching large quantities of flatus; attacks of pain less frequent and severe. 17th—Marked improvement; almost free from pain and nausea, but still belching a good deal after food. Continue *Arg. nit.* 24th—Since last seen has been steadily improving; pain almost gone; can take ordinary diet without any discomfort; action of bowels fairly normal. March 2nd—No return of pain or other symptoms.

The leading notes of *Argent. nit.* would appear to be aggravation of pain from the least food, difficulty in getting rid of the flatus by

belching, feeling as if squeezed in a vice at epigastrium, and immediate relief after belching the large accumulation of wind.

Cocculus presents symptoms nearly resembling those of *Acid carbolic*, but the spasmodic condition is more marked, being due rather to the irritable state of the cerebro-spinal nervous system than purely to gastric disorder. The kind of pain prevailing is cramp-like, with distension in the pit of the stomach. There are acute pains in the back, seated more in the vertebral column, and having the character of spinal irritation. The drug, in short, corresponds to the purely nervous sphere, its symptoms being expressed as, *e.g.*, dyspnea, palpitation, vertigo, and headache. Gastric symptoms are less prominent than in *Acid carbolic*, although we have abundant signs of incarcerated flatus in the pressive sensations referred to the upper part of the abdomen, with reflex pains in the spine and hysterical spasms of frequent occurrence. I have found numerous cases characterised by such symptoms rapidly yield to the action of this remedy alone, or sometimes intercurrently with *Gaultheria*. My attention was first drawn to the latter by an article in the HOMEOPATHIC WORLD, which I have not been able to trace; but the gastric symptoms appeared to me so prominent that I was led to prescribe it in several cases in which the indications were present, and with most satisfactory results. I have continued since then to use the Wintergreen frequently in gastric neuroses associated with flatulence, especially when occurring in rheumatic subjects. The following instance may serve to illustrate this experience:—

October 23rd, 1905 — Miss M., æt. 40, has frequently been under my care for rheumatic symptoms. Since last week has had severe darting, contractive pain in region of false ribs on both sides corresponding, apparently, to the attachments of diaphragm, also round loins; pain worse on left side after meals; crampy sensations in abdominal muscles; distension of epigastrium, and belching of flatus; tongue coated white; bitter taste; thirst; constipation, acting every three or four days. The compressive pain encircling the thoracic walls, attended with peculiar jerky respiration, seemed to the diaphragm as specially involved. It was almost continuous, but worse after taking food. *Bryonia* 12 every three hours. 25th. — No better as yet. Continue. 28th. — Pain rather less persistent but recurring in severe paroxysms, and attended with suffocating sensation, as if she could not fully expand chest. *Acid carbolic*, 3x ter. die., *Gaultheria* 3x at bedtime, and repeat during night. 31st. — All symptoms relieved; bowels more regular. Continue. November

4th—Still improving; notices most relief after night medicine (*Gaulth.*). Repeat latter every two or three hours. 8th.—Has continued to improve; attacks of pain at much longer intervals, and less severe. The medicine was continued for another week, when patient reported herself practically free from all the symptoms. She wrote to me about a month ago from the seaside, that she had a recurrence of the symptoms, which again yielded rapidly to *Gaultheria*.

Now, as Hughes remarks, we know little pathologically of the maladies affecting the diaphragm, and we can only infer from symptoms like those noted above that this muscle is implicated. But it seemed to me in the foregoing case that the rheumatic tendency of the patient afforded presumptive ground for regarding the diaphragm as specially involved. Hughes has recorded a case of acute rheumatism of the diaphragm which yielded to *Bryonia*.

The specific rage of *Gaultheria* will, I think, be found to correspond to various gastric and abdominal pains of purely neurotic character met with in patients predisposed to rheumatism.

CASES BY FREDRICK COPP, GREENWICH.

TEREBINTHINA IN AN URINARY AFFECTION

An aged man (65) suffered from the following symptoms. A sensation of weight and aching pains in the loins, great depression of muscular power, burning in the urethra, sensitiveness in the region of the bladder, loss of appetite, and difficult and painful passing of scanty red urine. I advised him to take 2 m doses of *Terebinthina* 1x on a lump of sugar every two or three hours. Within a few days there was a decided improvement in the case, and the whole of the above symptoms had completely disappeared at the end of ten days, thus leaving a record of a brilliant cure for *Terebinthina*. *Terebinthina* is a prime remedy in cases having the above symptoms. Should the urine contain blood, the bowels be relaxed, and there also be present an abundant mucous expectoration, these would be a further indication for the administration of this drug.

Secale Cornutum IN DIABETES INSIPIDUS.

A young man (aged 35) suffered from the following characteristic symptoms: Copious and frequent discharge of clear and colourless urine, most troublesome during the earlier part of the day, when he often had to pass water in large quantities four or five times within an hour. There were present also an almost constant thirst,

dry, harsh skin, and a certain amount of mental and physical weakness. On examination the specific gravity of the urine was found to be 1005. It contained neither sugar nor albumen. The patient stated that he had been for a very long time in this condition, and felt himself to be gradually getting worse. I requested him to take 3 minims of *Secale cornutum* 1x in a wineglassful of water every three hours, and to report the result at the end of a week. At the expiration of that time he came to me and stated that the symptoms had not much altered. He thought that the medicine was not suited to his case, but I advised him to continue with the treatment. He did so, and at the end of the following week reported that the quantity of water passed, and the frequency in passing it, were not so great, and that the other accompanying symptoms were not quite so bad. He kept on with the medicine, and at the end of eleven weeks was completely cured, the specific gravity of the urine having ascended to 1020, and the average quantity passed 40 ozs. (almost half of that previously voided within the twenty-four hours). *Secale cornutum* is undoubtedly a remedy of the first importance in the treatment of diabetes insipidus, and has, in my opinion, a great future before it in the overcoming of that complaint. In the treatment also of diabetes mellitus it should be a remedy of great value, and one from which many brilliant cures should be the result. As shown, however, by the above cases of diabetes insipidus, it is a remedy that must be patiently persevered with if we wish to reap the full benefit of its action.—*The Homœopathic World*, May 1, 1906.

A SEPIA CASE: A NEW MODALITY?

By R. E. RABE, Weehawken, N. J.

Miss G.—had for some time been complaining of drowsiness in the early evening and of some loss of her usual animation and spirits. Previously she had always regarded herself as healthy, with the exception of a chronic naso-pharyngeal catarrh.

For some weeks she had had occasional light attacks of diarrhea preceded by slight abdominal pain, the stools being described as watery and but one or two in number during any one day. She had now been ill about a week with an apparently mild catarrhal gastritis, the temperature reaching as high as 100, or thereabouts only. By her father, a physician, she had been given *Bryonia* and later *Lycopodium*, but without any material change or benefit.

My taking of the case presented the following.

Age 18 years, blonde complexion, blue eyes, well-nourished.

Physical examination of chest and abdomen negative?

Tired feeling in abdomen extending through to back, as though it would break, relieved by lying on the back.

Back feels tired during the day.

Occasional nausea and vomiting.

Nausea at the thought of food and from the odor of cooking.

Is subject to car sickness when well.

Thick yellow mucons discharge from nose and posterior nares, also plug of hardened mucus.

Pieces of dried mucus in back of throat mornings, breathes through mouth at night, habitually.

Formerly subject to eye-strain headaches, now corrected by suitable lenses.

Gets pain in temples at times, after sewing.

Sleepy mornings on rising and about eight o'clock in the evening, falls asleep easily.

When lying on the back during sleep, is apt to dream of murders, burglars, etc. (Considering our daily papers of to-day, this symptom is not remarkable, even though it does suggest *Natrum Muriaticum* and other remedies)

Dry cough from tickling under the ensiform cartilage, when drawing a long breath or when excited.

Stitching pain in coccyx, not at all severe, when rising from a stooping position.

Slight sweat on soles of feet, not offensive, stockings damp.

Hot pork or corned beef disagrees, causing diarrhoea.

Thirsty, for water.

Menses formerly every three weeks, lasting one week, not profuse, with abdominal cramp-like pains the first day.

Menses now every twenty-eight days and free from pain.

Feels weak during the first day.

Cheeks very red and hot, flush easily from slight chafe and burn.

Acid vomit, smells sour.

Gets very tired when walking a short distance, of late.

Numbness of side of body on which she lies; also of limbs when lying on them.

Parts on which she lies feel sore as though her bones would come through.

Empty feeling in the stomach. Urine Normal.

Two remedies at once suggested themselves, *Ferrum metallicum*

and Sepia, the latter more especially. A brief reference to the materia medica confirmed the choice of Sepia, which was given in the 200 potency, five doses in all, three during the afternoon, January 31st and two the following morning.

Feb. 1. Little change, but scleroticæ are decidedly jaundiced and skin rapidly becoming so. Here then was presented the cause of the whole condition, in this plainly evident catarrh of the bile ducts. No stool, the last had passed a few days since, after the use of an enema. No medicine.

Feb. 2. Is now very much jaundiced all over body. Urine deeply bile stained. A peculiar modality, either occurring from the first time or else not mentioned before, now becoming manifest, viz., nausea and vomiting when lying on the left side.

Bryonia has nausea when lying on the side, which side not expressed, though right side especially, in a case of mine some weeks since.

Ferrum aceticum has vomiting when lying on the side. Both symptoms are to be found in Kent's Repertory.

Boger's Benninghausen gives under "Nausea and Vomiting" aggravated by lying on the side, Bryonia, Ferrum and Ignatia, under left side. Ferrum alone, and under right side, Bryonia and Cannabis.

This latter confirms my Bryonia observation.

Knerr and Lippe do not give the symptom.

Allen's Symptom Register gives Bryonia under "Nausea when lying on the side," page 802, and under "Vomiting, aggravated lying on the side," Ferrum, page 1299.

Gentry does not mention the symptom at all.

The patient felt some better in other respects. No medicine was given.

Feb. 3. There seemed to be no further improvement. Sepia cm, three doses at three hour intervals were now given.

From this time on improvement was rapid in all symptoms, the nausea leaving, jaundice disappearing, pains going, appetite returning and bowels moving.

Certainly this was a beautiful picture of Sepia and the peculiar modality of nausea and vomiting when lying on the left side, is interesting and may be of decided value if further confirmations are recorded. These are eagerly solicited.—*Medical Advance*, April, 1906.

A CASE OF DIARRHŒA.

By Dr. GOULLON.

Translated for the HOMŒOPATHIC RECORDER from
Leipziger Pop. Z. f. Hom.

Mrs. F., seventy years old, after eating over-ripe cherries, was seized with stubborn diarrhœa, which would not stop in spite of *Ipecacuanha*. The reason of this was that this fault in diet was only the accidental cause of a periodical intestinal catarrh, appearing every summer during the hot season. A peculiar symptom was that immediately after every meal, even after soup, oatmeal soup, etc., the urging to diarrhœa appeared with an almost watery discharge. I lately saw *Bromium* recommended in diarrhœa immediately after eating. I do not know on what this recommendation is founded, I did not, therefore, give any heed to it. (Analogous hints often leave us, in the lurch, e. g., Schnessler's indication: *Ferrum phos* in the vomiting of food.) An important remedy in stubborn diarrhœa is, however, *Mercurius cor.*, especially where the diarrhœa resembles dysentery. These diarrhœas had at least formerly resembled dysentery, i. e., they had mingled with blood. On one occasion *Arsenicum* had effected a cure. So I gave Mrs. F. *Mercur. cor.* D 12, every four hours (more exactly, four drops in sixty grammes of water in doses of one tea spoonful). Even the strictest diet had no effect. While *Ipecacuanha* did not avail anything and *Mercurius sol.* had also been given in vain, as also *Bryonia*, which is wont to be so warmly recommended in books for diarrhœa combined with bilious disturbances, now after *Mercurius cor.* the character of the evacuations changed, more consistent stools appeared; the appearance of the tongue, which had been horrid three days before now only showed a slight white coating in the posterior part.

The taste in the mouth, which before had been bitter and in the latter days like pap, now gave way to a normal taste. The great weariness of my patient shows me, however, that my patient had passed through a severe case; for this could not be explained by the heat alone, or at least only in conjunction with the fasting which had followed as a consequence.—*Homœopathic Recorder*, April 15, 1906.

Gleanings from Contemporary Literature.

THE ARTERIAL PULSE: ITS PHYSIOLOGY AND PATHOLOGY.

Delivered before the Royal College of Surgeons of England on March 23rd, 1906.

By SYDNEY WALTER CURL, M.A., M.D. CAMB., M.R.C.P. LOND.,
PHYSICIAN TO THE ESSEX AND COLCHESTER HOSPITAL.

[DR. CURL commenced his lecture by a few remarks upon the nature of the pulse as held by the ancients, referring to, amongst others, Erasistratus and Nicolas de Cusa. Coming down to modern times he reviewed the opinions of various observers—such as Ewart, Sansom, and Spallanzani—as to whether the pulse is due to an expansion of the artery or not and gave it as his own opinion that whilst the pulse in the main is produced by the increase of pressure in the arteries, yet there is a certain amount of arterial expansion at the same time. He then passed on to consider the physiology of the pulse curve (Landoeis and Czermak) and referred to the two methods of investigating the pulse—namely, by means of the finger and by means of the sphygmograph. He discussed the effects on the pulse of arterial tone and peripheral resistance and gave the characteristics of the normal pulse. Continuing his remarks, he proceeded to discuss the meaning of the various portions of the pulse curve—such as the dicrotic and predicrotic waves—as traced by the sphygmograph. He next passed on to consider]—

THE PATHOLOGY OF THE PULSE.

Causes giving rise to pathological pulses may act in several different ways, of which the following are the main. In the first place, they may act by disturbing the normal nervous mechanism for the control of the action of the heart. They may stimulate or paralyse the inhibitory cardiac mechanism, that is, the vagus centre or nerve; or the accelerating system of cardiac nerves—namely, the sympathetic—may be also either stimulated or paralysed, and in both these ways the pulse frequency may be altered; in many cases it is impossible to tell which system is affected. Increase of the general blood pressure, however, is said to cause slowing of the pulse-rate by stimulation of the vagus centre; the slow pulse found in the early stages of cerebral compression is also said to arise in the same way, whilst the rapid pulse found in cases of acute febrile diseases is supposed to be due to a suspension of the functions of this centre, produced by the action on the centre of toxic products present in the blood in these conditions. Alteration in the frequency of the pulse may be due to some lesion involving the trunk of the vagus, for example, slowing of the pulse has followed accidental ligature of one vagus, and a neuritis involving the trunks of the vagi may cause the pulse to become very frequent, as in some cases of diphtheritic or alcoholic neuritis. Of alter-

ations in the pulse dependent upon changes affecting the intrinsic nervous mechanism of the heart nothing definite is known. Secondly, the functions of the cardiac muscle may be disturbed and thus give rise to abnormal states of the pulse. Imperfect nutrition of the cardiac muscle from imperfect blood-supply or from abnormal states of the blood may cause impairment of the functions of the heart and so disturb the normal beat. It has been shown that diminution of the property of conduction of some of the cardiac muscle fibres may give rise to irregular forms of pulse. Interference with the contractile power of the heart, by adhesions to neighbouring parts, obstruction to the free exit of blood from its chambers or the passage of blood in an abnormal direction, may mechanically give rise to abnormal direction, may mechanically give rise to abnormalities of the pulse. A third way in which alterations in the pulse may be produced is by changes in the state of the circular muscular fibres of the arterioles, by a retraction or relaxation of these, and by a stiffening or rigidity of the walls of the arteries, as a result of organic changes in their coats. In some cases of arterial retraction—as, for example, during rigors—it appears that the vaso-constrictor centres are stimulated; in other cases, as in Bright's disease, either the nerve terminations in the muscular fibres or the muscular fibres themselves are directly stimulated by poisonous bodies present in the circulating blood. Lastly, modifications of the activity of both the vaso-motor centres and the cardiac nervous mechanism may be produced by reflex actions of various kinds and also by impressions arising in the higher centres of the brain, and by these means changes in the form of the pulse brought about.

Owing to the difficulty of deciding through which channel disturbance of the characters of the pulse is brought about a classification of the forms of pathological pulses by these means is at present impossible; the simplest method, and the one which I have followed, is to classify them according to the chief departure from the normal they exhibit; thus they may appropriately be divided into the following groups: (1) those in which changes in the frequency occur, (2) those exhibiting changes in the tension of the vessel wall; and (3) those in which irregularity is a marked feature. A few which cannot be classified according to the method I have considered separately.

Abnormally frequent pulses—Increased frequency of the pulse-rate may be produced by the following pathological conditions.

1. The absorption of toxins of bacterial origin. Under this head may be included the acute inflammatory nature associated with a rise of the body temperature. As our knowledge of the pathology of infectious diseases and acute inflammation progresses the idea is more and more becoming fixed that in most, if not in all, cases of such a kind we have to deal with the presence of micro-organism and their toxins and that it is owing to the absorption of these latter poisons that symptoms of disease arise. With rise in the body temperature the pulse-rate increases in frequency; according to Liebermeister, for every rise of one degree Fahren-

heit the pulse rate increases by eight beats per minute and whilst this rule cannot be held as absolute any marked departure should be carefully noted. With this increase of pulse-rate both the systolic and diastolic periods are shortened, especially the latter. The increased frequency of the pulse in fever Fredericq thinks due to a suspension or diminution of the vagal inhibitory power over the heart, and this from the fact that in rabbits, where the vagus has no cardioinhibitory power, with a rise of body temperature the pulse rate is not increased. Accompanying these changes the cutaneous vessels and the arterioles throughout the body are dilated and the vessels generally relaxed, the blood pressure generally falls. From all these causes combined the pulse in well-established febrile states exhibits the following characters, it is often larger than usual, it is more frequent, more abrupt, and subsides more quickly than a normal pulse. Dicrotism is often well marked. In some cases where the blood pressure is considerably lowered the down stroke of the primary wave may reach the base line before the dicrotic wave appears, giving rise to the so-called "fully dicrotic pulse," or it may even fall below the base line forming the "hyperdicrotic pulse", this latter, however, according to Mackenzie, does not necessarily indicate great lowering of arterial pressure it occurs, he says, when the pulse is very rapid and is produced by the ventricular systole being felt in the arteries before the dicrotic wave of the preceding beat has ended. In those cases of acute disease in which shivering or rigors appear at the outset, as in the cold stage of a malarial paroxysm, it is said that with a general retraction of the superficial vessels the pulse, although frequent, is small and its tension increased. When in the course of such diseases cardiac weakness becomes pronounced the pulse becomes of low tension and irregularity is apt to make its appearance. In certain cases of inflammation of serous membranes, such as pleurisy, peritonitis, &c., Broadbent says the vessels, instead of being relaxed, are contracted and the pulse small and hard, especially so in the latter disease and in the later stages of peritonitis we find the small, frequent, thready pulse familiar to all. In a person with a habitually irregular pulse the onset of an acute febrile disease with increased frequency of the beat of the heart may cause it to become quite regular for the time being.

2. The presence of malignant disease in any part may give rise to increased frequency of the pulse-rate without there being any rise of temperature, but upon what this depends is unknown.

3. Affections of the heart, valvular disease chiefly mitral, some cases of myocardial degeneration, dilatation from causes other than those of valvular lesions, and many of those conditions included under the term "heart strain," may be associated with rapid pulse.

4. Functional disturbance of the heart's action, such as may be produced by mental emotions of various kinds, may give rise to increased frequency of the pulse. In hysteria and neurasthenia, a frequent pulse is not uncommonly found. In the condition called "paroxysmal tachycardia" sudden attacks of greatly increased frequency of the pulse

occur at variable intervals, 200 or more beats per minute being frequently found ; after lasting a variable time the attack passes off suddenly. These attacks may occur in persons in whom there can be found no demonstrable lesion of the heart and nothing definite is known as to the cause of these phenomena. Some suppose they depend upon stimulation of the sympathetic, others that they are due to suspension of the inhibitory action of the vagus. Mackenzie thinks that many of these cases are produced by the occurrence of a series of premature systoles of the ventricle, as he has found that in many of such cases he has been able to demonstrate groups of premature systoles, interrupted here and there by beats of a normal character.

5. Exhaustion from whatever cause arising is often accompanied by increased frequency of the pulse ; for example, after severe muscular fatigue and in the latter stages of many chronic diseases. "In shock" and sometimes in the anæmias, especially chlorosis, the pulse may be abnormally frequent

6. Certain organic nervous diseases are often associated with a pulse of increased frequency ; in persons dying from cerebral hæmorrhage, in the terminal stage of meningitis, and in the early stage of locomotor ataxia a rapid pulse is often found to exist, in the first two cases owing most likely to some disturbance of the vagus centre.

In exophthalmic goitre tachycardia is one of the cardinal signs and often a very early one. In this disease the pulse-rate is generally over 100 per minute, sometimes 200 or more ; in addition, the tension is low and the beats small. Another peculiarity of the pulse in this affection is the extreme variability of its frequency, even within a few seconds, in a case recently under my care its rate would frequently drop from 160 or more beats per minute to the normal within a few seconds and from this patient I have obtained tracings exhibiting bigeminal, trigeminal, and quadrigeminal characters, and two beats of the heart to one at the wrist was frequently to be observed. The fact that the administration to animals of large doses of thyroid substance will cause tachycardia and other symptoms resembling Graves's disease in man tends to show that the rapid pulse met with in this disease may be dependent upon either a diminution or suspension of the inhibitory function of the vagus or an excessive stimulation of the sympathetic, whether this be produced by the circulation in the blood of an excessive amount of the normal thyroid secretion or of some of the products of abnormal activity of this gland.

Abnormally slow pulses.—Slowness of the pulse is only a relative term, since what might be considered slow for one person might be normal for another, both being in perfect health. A pulse of less than 40 beats per minute is of uncommon occurrence, though cases have been described in which only six beats per minute have been observed. In all cases of infrequent pulse it is important to auscultate the heart at the same time as counting the pulse, since many of these cases are due to the fact that the heart at regular or irregular intervals contracts too feebly to cause a wave

of pulsation to be felt in the peripheral arteries. What are the pathological conditions giving rise to these pulses? 1. Whatever causes a rise of blood pressure tends to cause a slowing of the pulse-rate; thus, in acute and chronic forms of nephritis and in certain forms of arterio-sclerosis, where a high blood pressure is the rule, the pulse-rate is commonly lowered possibly a result of stimulation of the vagus centre by the high blood pressure. 2. The retention or accumulation in the body of certain product of an irritant nature; under this heading may be included those cases of infrequent pulses met with in chronic gout, chronic dyspepsia, constipation, jaundice, and also after the excessive use of such cardiac poisons as tobacco. Whilst in some of these cases the way in which the infrequent pulse is produced is unknown, in jaundice, according to Wickham Legg, it arises as a result of the action of the cholalic acid on the ganglia of the heart. 3. Nervous Affections. In both functional and organic diseases an infrequent pulse is sometimes observed; thus it may occur in attacks of minor or major epilepsy and in that combination of symptoms the Stokes-Adams's syndrome forms a characteristic feature. In cases in which there is an increase of the intracranial pressure, as in cerebral hæmorrhage, abscess or tumour of the brain, and meningitis with effusion, it is often less frequent than normally, most likely the result of stimulation of the vagus centre in the medulla. That in cases of cerebral tumour the increase of intracranial pressure is the main factor concerned in the production of the infrequent pulse has been shown by the fact that after trephining, and thus diminishing the pressure within the skull it becomes more frequent. In some cases of mental disease, as in melancholia, some cases of general paralysis, and some forms of mania, the pulse is sometimes less frequent than normal, but in what way these diseases and an infrequent pulse are associated is unknown. 4. Exhaustion of the physical or mental powers. In convalescence from prolonged illnesses, after recovery from attacks of acute febrile diseases, after severe muscular or mental exertion, in the early stages of shock, and after severe bouts of pain, the pulse is liable to undergo some diminution in rate. 5. Chronic bronchitis and emphysema are stated to give rise to infrequent pulse but how this effect is produced is quite unknown. I have had under my care recently a boy with well-marked emphysema of the lungs and whose pulse was, in the intervals between the attacks of bronchial catarrh from which he frequently suffered considerably below the normal in rate and generally averaging about 46 beats per minute. 6. In certain degenerative changes in the heart muscle, such as fatty or fibroid changes, a sign which is sometimes but by no means constantly present is diminution of the pulse-rate.

There are three ways in which infrequency may be produced. 1. The heart as a whole may beat at a less frequent rate than it normally should. 2. Some of the ventricular contractions may be too weak to send a wave of pulsation to the peripheral arteries and if these weak contractions occur sufficiently often and at regular intervals we have produced an infrequent, regular pulse. 3. In the case of a woman with mitral disease who had long

been under treatment with digitalis for failing compensation I found on several occasions that with an infrequent pulse the heart was beating in couples twice as quickly, the latter beat in each couple being too feeble to cause a pulsation to be felt in the radial artery; this condition disappeared when the digitalis was stopped. In the case of Graves's disease already referred to, although the pulse-rate never fell below normal, yet on many occasions I have found that with a relatively infrequent pulse the heart was beating at double the rate. Although the auricles may beat at a normal rate the ventricle may fail to respond to every auricular contraction; if this occur at varying intervals we obtain an irregular pulse; if at regular intervals and sufficiently often an infrequent pulse results. In a series of recent experimental observations, Mackenzie has shown that some cases of bradycardia at least result from this cause and the failure of response of the ventricle to every auricular contraction he considers due to the incomplete recovery of the conducting property of the muscle fibres at the point of union of auricle and ventricle.

Just as there are cases in which the pulse-rate may at varying intervals become very rapid so there are cases in which it may be greatly diminished in frequency—so-called "paroxysmal bradycardia." In a case of this description described by Dr. John Hay, although the pulse at the wrist varied from 17 to 30 beats per minute it was believed that the auricles were contracting much more frequently; on post-mortem examination there was found to be a great thinning of the tissues connecting the auricle to the ventricle. From this it was concluded that the stimulus to ventricular contraction, which normally spreads from the auricle, was unable to pass over this thinned bond of union and having, therefore, to originate in the ventricle itself an infrequent contraction of this chamber and a corresponding pulse were the result.

Pulses of increased tension--What constitutes normal tension? Every individual has a certain pulse tension which although normal for the individual in question may not be so for another person and it is only by the examination of a large number of healthy persons and noting the great variations which may occur in the characters of their pulses that any definite idea of the limits of normal tension can be arrived at. Mahomed's rules for the detection of high tension are: (1) in a sphygmogram, if any part of the tracing rise above a line drawn from the apex of the percussion wave to the bottom of the diastolic notch high tension is present; and (2) if the systolic period of the pulse tracing occupy more than two-fifths of the whole duration of the curve a high-tension pulse exists. Both these rules are very useful, especially from the fact that they admit of easy application. In a well-marked high-tension pulse the following characters may be noticed: the pulse, which may be large or small, according to the force of the ventricular contraction and the relaxation or retraction of the arteries; the vessel feels full between the beats and considerable pressure is required to annihilate the pulsation in it. In a sphygmogram we find the downstroke of the primary wave is generally less abrupt than in a

normal tracing, the predicrotic wave is often well marked, especially in renal cases, and the dicrotic notch, sometimes well marked, at other times hardly visible, is high above the base line.

Theoretically, high tension may arise in many different ways; in practice however, three chief modes are concerned. 1. Increased force of the ventricular contraction, such as occurs during severe muscular exertion; this is of especial importance, in cases where the arteries are extensively degenerated, since it may undoubtedly induce rupture of such vessels or favour their yielding. 2. Increase in the volume of blood in the heart or vessels, either indirectly by the absorption of large quantities of fluid from the intestinal tract, or directly by infusion of solutions of various kinds into the vessels, such as is often employed in shock. 3. Increase of the peripheral resistance. This may be induced by spasm of the arterioles of a temporary character, such as occurs during rigors, when the body is exposed to great cold, in migraine, &c. In certain organic diseases a high-tension pulse is a prominent sign; it is usual in acute and chronic Bright's disease, in granular kidney, in chronic gout with which interstitial changes in the kidney are often associated, in some cases of diabetes, angina pectoris, and arteriosclerosis. In acute Bright's disease at first the arteries are considerably retracted and the pulse feels small; high tension is, however, present almost from the beginning; later, the vessels become larger but high tension continues as long as the disease is in progress, subsiding gradually as recovery occurs. In a sphygmographic tracing the predicrotic wave is generally very well shown and the pulse is somewhat infrequent. In chronic Bright's disease (including the granular kidney), especially the latter, high tension is usually most marked, and in addition there is usually considerable thickening of the coats of the arteries. The cause of the high tension pulse found in these kidney affections appears to be retraction of the circular muscular fibres of the smaller arteries, resulting from the presence in the blood of bodies of a poisonous nature; that it does not depend upon the changes in the kidney seems probable from the fact that in tuberculous disease of these organs, where large portions of the kidney substance may be destroyed, and in waxey disease high tension is not the rule. In the more chronic cases, however, probably the main factor producing obstruction to the circulation of the blood and a consequent high tension is a general fibrosis of the coats of the small vessels.

In cases where the resistance to the flow of the blood through the arterioles is increased by spasm of their muscular coats or by thickening and rigidity of their walls, in order to supply the tissues with an adequate quantity of blood, the force of the ventricular contraction must be increased; when this increase of peripheral resistance is of a temporary nature it is overcome by the utilisation of some of the reserve power which the cardiac muscle normally possesses; when the increase is more permanent the reserve power of the heart is unable to cope with the increased amount of work thrown upon this organ; to do this the power of the heart must be absolutely increased and this is brought about by

hypertrophy of its muscular walls. By these means the circulation is efficiently maintained and the blood pressure is kept high; ultimately, however, either from an increasing obstruction to the blood-flow through the smaller arteries or to the limits of cardiac hypertrophy having been reached, disturbance of this perfect compensation arises, the heart muscle yields, dilatation sets in, the blood pressure falls, and the circulation is no longer efficient.

In pregnancy the pulse tension is raised and here cardiac hypertrophy, increase in the volume of the blood, and possibly the retention of effete matters in the blood, may all assist in its production. In some cases of anæmia, especially in the "secondary" anæmias and in certain cases of angina pectoris, high tension is present, in the latter often a result of general, arteriole spasm.

Pulses of low arterial pressure.—In a well-marked case of low arterial pressure the pulse assumes the following characters: both the impact of the pulse wave and its subsidence are sudden, when the arterial pressure is very low the finger may feel merely a slight tap as the pulse wave passes; between the beats the vessel feels empty. The condition of the dicrotic wave varies. In some cases it is very well marked and may be almost as large as the primary wave, at other times, especially in those cases in which the arterial pressure is very low, it may be scarcely discernible; the bottom of the dicrotic notch is close to the base line of the tracing and the predicrotic wave is either absent or ill defined.

As with pulses of high tension, there are three chief factors concerned, either single or together, in the production of low arterial pressure. First, feebleness of contraction of the heart. Amongst the various conditions giving rise to this may be mentioned exhaustion of the general physical tone in whatever way produced, prolonged fever and the action of toxins of bacterial origin, such as may arise in acute febrile diseases, and degeneration of the muscular tissue of the heart or dilatation of its chambers, the ultimate effect of all of which is to lessen the power of the heart. Secondly, diminution of the volume of blood in the heart and vessels. Loss of large quantities of blood, as, for example, during surgical operations, and draining away of large quantities of liquid from the body, such as occurs in prolonged vomiting or diarrhœa, may all help in producing low arterial pressure. Thirdly, diminution of the peripheral resistance by dilatation of the arterioles. In fever such a condition is present and the tension of a pulse originally high may on the occurrence of an acute febrile process be much lowered, though whether or not any serious diminution of arterial pressure may in these cases be brought about by such means is doubtful. In shock the low arterial pressure found has been considered to be due to a vaso-motor exhaustion and a relaxation of the peripheral vessels; on the other hand, it has been argued that there is no relaxation but an actual contraction of the arterioles in shock and that the low blood pressure which arises is produced by a later relaxation of the vessels of the internal parts.

It may here be mentioned that high and low tension pulse are, after all, only relative terms—one person may have habitually a pulse of high pressure and another one of low pressure and yet both may be in perfect health. The limits of normal tension are wide and when in A the tension is found to be high and in B low, due consideration must be allowed for individual variations, and unless the diminution or increase in arterial pressure be marked probably not much importance should be attached to these variations unless other indications of disease appear.

Pulse irregularity.—Mackenzie divides pulse irregularities into two varieties: first the youthful form, in which "the systolic period of the pulsations is quite regular but in which the length of the diastolic period varies; this, he finds, occurs in some cases of slowing of the pulse after infancy and after febrile diseases; and, secondly, the adult form of irregularity, in which premature systoles of the ventricle occur, and according to the number and times of occurrence of these imperfect ventricular contractions many different forms of pulse irregularity are to be met with. If a premature systole occurs soon after every full beat and is followed by a pause we have produced the "pulsus bigeminus," a form not uncommonly found in cases of mitral disease and as an effect of the action of digitalis. It is also said to be frequently present in those cases of muscle failure of the left ventricle, from whatever cause arising. When two premature systoles occur after every full beat we have produced the "pulsus trigeminus," when three the "pulsus quadrigeminus," and according to the time of occurrence of these premature ventricular contractions many different forms of pulse irregularity may appear.

Amongst the numerous causes of irregularity may be mentioned nervous excitement, palpitation of the heart, and exhaustion of the physical or mental powers; pressure upon, or displacement of, the heart, as may occur in cases of flatulent distension of the stomach or intestines, is also said to be a cause of pulse irregularity. I am rather sceptical of this mode of origin of irregular heart action, as in many cases of pleural effusion or ascites where pressure upon, or displacement of, heart may be marked the heart does not often become irregular unless other conditions exist which may produce it. The excessive use of such articles as tea, coffee, and tobacco may cause an irregular pulse.

In a state of health the respiratory movements have no definite influence in affecting the character of the pulse tracings. In some cases of disease where there is an interference with the free entry of air into the lungs during inspiration the beats become small, to increase again in size with expiration; I have found such a pulse in a case of pneumonia complicating subacute rheumatism. In the pulsus paradoxus this diminution in the size of the pulsations during inspiration become very marked and the pulsations may even disappear during inspiration; at one time supposed to arise as a result of a constriction of the aorta by fibrous bands, which during inspiration might constrict the lumen of this vessel, such an

explanation will not suffice, as this kind of pulse has been found in other conditions which by themselves could not act in this way. It has been found in cases of chronic mediastinitis, of which it is supposed to be an important sign, in cases of mediastinal tumour, in mitral incompetence with dilatation of the heart, and in other conditions. It has been found in one radial only. At present we do not know in what way it is produced.

As a more or less permanent condition pulse irregularity occurs in valvular disease of the heart, especially in mitral lesions, in degenerative changes in the heart muscle, in dilatation, and in some cases of meningitis. The pulse irregularity which is common in the later stages of mitral disease Mackenzie thinks is due to a partial paralysis of the left auricle; from this results an irregular discharge of blood from this chamber, irregular stimulation of the ventricle, and consequently an irregular pulse.

In some cases of irregular pulse the whole heart participates in the irregular action; in others the irregularity is apparently confined to the ventricle. In a recent paper Mackenzie has shown that he has experimentally been able to verify the statement of Wenkebach, that when one of the functions of the heart muscle is depressed an irregularity peculiar to this function would be found. He investigated the condition of conduction of the muscle fibres between the auricle and ventricle and he did this by taking tracings from the jugular vein (which show auricular and carotid pulses) and comparing them with tracings from the radial artery taken at the same time. The period of time intervening between the commencement of the auricular contraction and the carotid beat, which normally occupies one-fifth of a second, he finds may be increased without there necessarily arising irregularity of the pulse. In some cases, however, of irregular pulse he has found that this interval of time may be progressively increased, and indicating, as it does, a depression of conductivity of the muscle union between auricle and ventricle, the stimulus to contraction may at times be unable to pass over from auricle to ventricle and a missed beat results. If this depression of conductivity occurs at regular intervals the ventricle may fail to respond to every auricular contraction and a slow pulse may result.

Lastly, pulse irregularity is said to occur in some persons who are apparently in perfect health and in whom no cause for this abnormality can be found.

The pulse in cardiac disease.—With the exception perhaps of aortic regurgitation, there is disease of the heart which can be said to give a pulse in any way characteristic of the morbid lesion. The typical pulse of incompetence of the aortic valves is one which arises and subsides suddenly—the so-called water-hammer pulse. In a sphygmogram we find a sudden and generally large upstroke followed by a rapid fall, these characters depending upon a great and sudden increase of pressure in the artery produced by the hypertrophied ventricle and the sudden lowering of arterial pressure, the result of the regurgitation back into the ventricle.

of a quantity of blood which normally should be propelled on into the distal vessels. The dirotic wave varies. When the regurgitation is marked this wave may be almost or entirely absent ; with less regurgitation it may be well shown. 'Broadbent says that the pulse in this disease depends a good deal upon its mode of origin ; if arising from endocarditis it possesses the characters already noted ; if due to atheroma and associated with aortitis deformans, although the wave arrives and subsides quickly, there is no real collapse. It seems to me that these differences depend upon the presence or absence of stenosis of the aortic orifice ; if stenosis be absent, as it may be in those cases resulting from endocarditis, the pulse will be of the water-hammer type ; if, on the other hand, stenosis be present, then the up and down strokes of the pulse tracings will be much less abrupt, the collapsing character will be much less marked, and the summit of the primary wave will be more rounded.

In stenosis of the aortic orifice the pulse wave arrives in a slow, leisurely way, the narrowing of the orifice preventing the full effect of the ventricular contraction being felt at once in the aorta ; in a sphygmogram we find a sloping upstroke with a broad summit ; there is no sudden subsidence of the wave as in the previous condition. It is in the form of valvular lesion that "anacrotic" tracings are commonly found to occur ; they are, however, not characteristic of this affection. In some cases the apex of the primary wave is divided into two parts constituting the "pulsus bisferiens," the mode of production of which is doubtful, some thinking it indicates that the ventricle contracts in two stages, others that it is an artificial production. In one case reported it was found on one side only and no definite cause for this unilateral condition was found.

• In mitral disease, either stenosis or regurgitation, the pulse exhibits no special characteristic. Theoretically, one might suppose that in stenosis the pulse would be small, but this is by no means the rule. In both forms of valvular defect, when compensation is well maintained the pulse may be quite normal in character ; in the later stages, with excessive dilatation of the left auricle, it tends to become rapid and to exhibit marked irregularity in both size and time ; the tension, also, in the later stages is apt to become very low.

Dilatation of the heart from other causes than those of valvular defects brings with it no characteristic changes in the pulse, and changes that may be found depending upon the side of the organ affected and on the cause giving rise to the dilatation.

The pulse in aneurysm -- In cases of aneurysm of the aorta involving that portion of the arch between the origins of the innominate and the left subclavian arteries, important differences may be found in the pulses in the two radial arteries, these differences depending upon compression of the left subclavian by the aneurysmal sac or by obstruction of its lumen by blood clot or narrowing of its orifice by atheromatous changes, and unless some such obstruction exists no difference in the two radial pulses may be found. Compression of a vessel by tumours may produce exactly

similar alterations of the pulse as are produced by aneurysm. As a result of the obstruction to the flow of blood along a vessel affected in any of these ways, the pulsation in the vessel beyond the obstruction appears more gradually and reaches its maximum more slowly than that in the corresponding vessel of the opposite side. In a sphygmographic tracing this is well seen, and further, such a tracing shows a rounded summit and a downstroke almost or entirely devoid of secondary waves. In some cases this obstruction of the lumen of the vessel may be so marked as almost to annihilate pulsation in it; this was well shown in a case I had recently the opportunity of examining. The patient, a man, aged 55 years, with the physical signs of aortic regurgitation, developed inequality of the radial pulses, the left being smaller and exhibiting a tracing indicative of obstruction to the free passage of blood into it. On the day preceding death the pulsation in this vessel could hardly be distinguished, that in the right radial remaining large and of its usual characters. On post-mortem examination, a fusiform aneurysm was found involving the aorta, extending from the origin of the left subclavian to a point about two and a half inches beyond. On opening up the aneurysmal sac, which contained some partly organised clot, the orifice of the left subclavian artery was found to be almost entirely obstructed by clot, removal of which showed an orifice just large enough to admit a probe.

Is there delay of the pulse in the vessel beyond an aneurysm? Certainly from digital examination of the radial arteries in a case such as the one I have already described and a comparison of them, one gets the impression that there is. Mackenzie, however, thinks this delay is apparent only and that it is due to the fact that in the vessel beyond the aneurysm the maximum force of the beat is not attained so suddenly as in the corresponding vessel of the opposite side. Further, he has shown that in aortic regurgitation, in which the pulse has been supposed to be delayed, such is not the case. By comparing tracings obtained from the apex beat and radial artery of patients suffering from this disease with similar tracings obtained from persons in whom there was no disease of the heart, he has found that the period of time intervening between the apex beat and the radial artery pulsation, is the same in both.

CONCLUSIONS.

The arterial pulse represents in the main the sudden increase of pressure occurring in the arteries as a result of the ejection into them of the contents of the left ventricle, and it travels from the heart to the peripheral parts in the form of a wave, diminishing in size as it passes along. The pulse curve represents the changes occurring within the artery at the part under examination. We have seen that its form varies according to the force of the contraction of the ventricle, to the blood pressure, to the condition of the vessel wall, and to the distance of the vessel from the heart. This sudden increase of pressure in the arteries having reached its maximum is followed by a fall, the fall, however, being interrupted by

a slight increase of pressure as the diastolic wave appears ; it then returns to the normal.

We have seen that the diastolic wave, whilst not capable of being fully explained, still appears to arise as a positive wave from the closed aortic valves ; of the other secondary waves we know very little about their modes of origin. Further, we have seen that the factors concerned in the regulation of the normal pulse, and disturbance of which may cause the pulse to assume various forms of abnormality, are the integrity of the heart muscle and maintenance of its functions, the condition of the vessel walls, the state of the arterioles and the nervous mechanism regulating and controlling the heart beat, and the state of contraction or relaxation of the circular muscular fibres of the arterioles. In some forms of abnormal pulses the channel by means of which such abnormality is brought about is evident ; in others we have to rely on conjecture.

Of pathological pulses few, if any, are characteristic of the diseases producing them ; in the large majority, of cases no specific alterations are produced.

Of alterations in the tension it is in arteries which are either naturally small or are abnormally retracted that one is apt to overlook high tension, and I think that in such cases as these the sphygmograph is especially useful, since it may demonstrate high tension hardly appreciable to the finger.

In some cases of disease the pulse affords us valuable assistance in prognosis ; it often indicates the necessity for the exhibition or withdrawal of drugs and affords us commonly a guide to the rational treatment of any diseases associated with circulatory disturbances, and upon our ability to recognise the indications for treatment derived from our examination may the success of our efforts rest.—*Lancet*, April 21, 1906.

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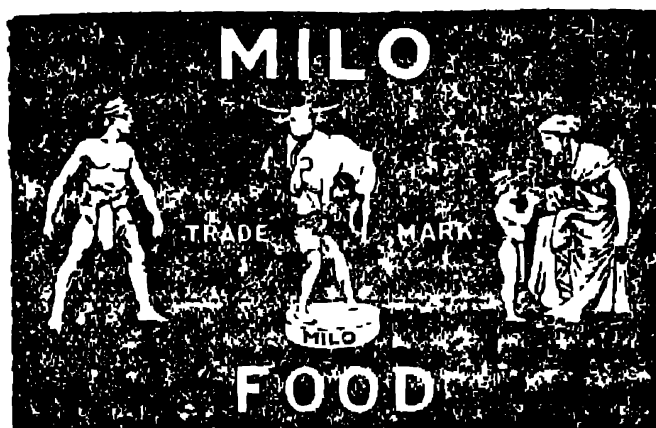
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HOMŒOPATHIC SCHOOLS IN CALCUTTA.

Looking at the advertisement columns of the daily papers with regard to homœopathic schools in Calcutta, one is inclined to say "there are more of them than they are in need." The main question is, whether the supply is equal to the demand? Opinions differ in this respect. Doubt can not be entertained that there is need of well-qualified homœopathic practitioners. The critical point which will settle the issue is, can the passed students of these homœopathic schools be said to be properly qualified, so as to undertake the responsibility of homœopathic practitioners? The answer depends on the nature of the knowledge of these so-called qualified men. We think their qualification should be at least equal to that of the Hospital Assistants in other points except homœopathy. In fact, they should have knowledge of Anatomy (including Dissection) Physiology, Materia medica (old and new school), Pathology, Surgery, and Practice of Medicine (old and new school).

Objection may be raised in acquiring the knowledge of the old school by the students of the new school. It may be said that it is superfluous and unnecessary. The answer is, when the whole understructure forms the like basis for the two schools, with difference in the superstructure, it would be profitable to learn the two methods of treatment. Further,

the comparison between them imparts a light on the methods of the two schools which will be profitable to both of them.

So far for their qualification. Instead of having so many schools, every one of them being established for the profitable transaction of a few organisers there should be one as the united effort of their sincere co-operation. We would not object to the business if the imparted knowledge be equal to the gain. Generally, the quality and quantity of education is not commensurate with the imposition of the fee. Success in examination is attained by many. Failure is infinitesimal, perhaps according to the doctrine they teach.

Apart from the future career of the students and teachers, one fact is perceptibly observed. The students are flooding the city of Calcutta where there is so little need of them. Like Hospital Assistants, their future career will find ample field in the *mautasil*, where so much paucity of homœopathic practitioners is observed. The future of homœopathy mostly rests on the teachers of the Homœopathic Schools. We only fear that in the struggle for existence, the bad stuffs will create bad impression. The vanity of the students, in some cases, are intolerably manifested, for they are favoured by a few senior practitioners, who eke out their existence from the calls of the so-called qualified students of the Homœopathic Schools. A thoughtful man who wants to preserve the good name of homœopathy is pained to see the trades-unionism existing between the students and their teachers at the sacrifice of good principles.

NEED OF AN INDIAN HOMŒOPATHIC PHARMACOLOGY.

(Continued from p. 17).

92. *Asperula odorata* lives in Europe.

93. *Astragalus Menziesi* is found in Europe and America. We have *A. hamosus*, *A. multiceps*, *A. tribuloides* and *A. virus*. *Astragalus* lives in Asia limiting itself in a particular zone, the head quarters being in western and central Asia. Among these varieties, *Astragalus virus* or the *Tragacanth* is particularly noticeable. *Tragacanth* is known *Katila*, having diuretic properties. The property of *Astragalus Menziesi* is irritant to the mucous membrane of the mouth, pharynx, œsophagus and stomach. It produces headache. Taking all these facts into consideration, it seems that *Astragalus hamosus* comes near to *A. Menziesi* than any other of the same species. The name *Astragalus* is derived from Latin *Astragalus* "the ball of the ankle-joint, in allusion to the knotted and kneeled nature of the procumbent stems of many species. They are in English generally known as the Milk vetches."

Astragalus hamosus is known by the Hindi name of *Tyebulshah* or *Katila*. *Katila* is a common name for almost all *Tragacanth*s.

94. *Athamantia* is a European plant. *Athamantia orcoselinum* is *Grundheil* in German.

95. *Avena sativa* or the Oats. According to De Candolle its original habitation was in Europe. On the other hand, it is a known fact, that when *Avena sativa* goes wild it assumes the type of *Avena strigosa* which is only a variety of *Avena fatua*. *Avena fatua* is the wild oat. The chief difference between *A. sativa* and *A. strigosa* or *A. fatua* is the bristles at the end of the flowers of the *strigosa* or *fatua* which disappear under cultivation and assume the type of *A. sativa*.

Avena fatua is a field weed in cereal crops throughout the plains of India and ascends the Himalaya to 11,500 feet. For the fact of the presence of *Avena fatua* or the wild oat as an uncultivated species in India, we are not disposed to accept

the view of De Candolle that *Avena sativa* was transplanted from Europe into India. The Bengali and Hindi name of *A. fatua* or *A. sativa* is *Jai*. In Northern India, the name of *Avena fatua* is *Ganer* or *Kuljud*.

86. *Ballota lanata* is a native of Asia. The dried herb is used for tincture. In India, we have *Ballota limbata* which is a Panjabi plant found in the Trans-Indus region, the Salt range and in the Jhelam basin.

97. *Balsamum Peruvianum* is the balsam obtained from *Myroxylon Pereira*, a tree of Peru. In India, we have *Balsamodendron mukul*, *B. myrrh*, and *B. Roxburghii*. *B. mukul* gives gum Guggul. *B. myrrh* is cultivated in Western India. *B. Roxburghii* is found in East Bengal and Assam. *B. mukul* is Guggula of Bengal. In Sanskrit, it is गुग्गुल and in Vaidyak sabda sindhu, it is said to be of three varieties. *B. myrrh* is বোল (Bol), or গন্ধরস (Gandharasa) in Sanskrit. The Bengali names are হিরাবোল, and খুনখুরাপী. It is unknown whether Balsam mukul or guggul can be used instead of Balsam of Peru.

98. *Baptisia confusa acetica* is a European tree.

99. *Baptisia tinctoria* is a native of America. Hope is entertained that *B. tinctoria* can be cultivated in India.

100. *Barosma betulina*, *B. crenulata* and *B. serratifolia*. The last has been converted into *B. sanatifolia* by Clarke. Buchu has habitation in South Africa. The dry leaves are exported from the place for tincture.

101 *Belladonna* or *Atropa Belladonna* has habitat in Greece, Italy, Britain and Asia Minor. It derives the name from Greek Atropo, "one of the three Fates—the goddess supposed to determine the life of man by spinning a thread: the name being given to this plant in allusion to its poisonous property. It is the Nightshade or Dwale of English writers."

The Deadly Nightshade is not unknown in India and found from Simla to Kashmir at an altitude of 6,000 to 12,000 feet. At Kanawar 8,500 feet high, it is in a wild state. Doubt is entertained as to its native names either in Persian or Arabic.

The Persian names are Sugungoor, Roibach turbak, and Anub ulsalub. Effort has not been made to ascertain its correct name in Persian and Hindi.

Difference exists between the European and Indian plant. Watt gives the following differential characters. "The leaves of the Indian plant are a little more acuminate in the Himalayan than in the European plant. This is probably what has given origin to *A. lutescens*, Jacq. Matthioli calls this plant *Solanum majus*, and tells us that the Venetian ladies used water distilled from the plant as a cosmetic, hence the name *herba Belladonna*."

It is a fact that Belladonna or Deadly Nightshade was not used in the Hindu system of medicine. Watt remarks: "It is a remarkable fact that while this most useful plant is exceedingly plentiful in many parts of the Western Himalaya, its medicinal virtues seem to have escaped the detection of the natives of India completely. Absolutely worthless drugs are carefully collected and exported to the plains of India, from the very localities in which Belladonna is abundant, and yet not a single leaf or root of this most valuable drug can be purchased, of Indian origin, in the native drug shops of the plains."

A noticeable fact is that its active principle, Atropia, resides mostly in the ripe seeds. The root and stalk contain a small amount. The officinal direction to prepare its tincture is from the whole plant when beginning to flower. Tinctures are also separately prepared from the green berries, ripe berries, fresh root, and fresh dried seed. Most of the provings being from the fresh plant, when coming into flower, we generally use the plant in that form. It seems that we can get the largest quantity of Atropine from the fresh-dried seed. For this reason, it is necessary to prepare another form of tincture, only from the fresh-dried seeds. The relative action of the two tinctures wants careful examination.

102. *Bellis perennis* or the Daisy is found in Europe.

103. *Berberis aquifolium* is mostly an American tree.

104. *Berberis vulgaris* is a native of Europe and Asia. In India, we have *B. angulosa*, *B. aristata*, *B. Asiatica*, *B. coriacea*, *B. lycium*, *B. Nepalensis*, and *B. vulgaris*. Of these, *B. vulgaris* is the True Barberry. Its Persian and Arabian names are *Ambarbaris* and used in the Yuanani medicine. Its habitat is from the Himalayas, west of Nepal, Afghanistan, Beluchistan, Persia, Turkey to Europe. The dried fruits are known as *Zarish-tursh*, *Zarishke-trush* or sour currants. They are imported from Kabul, Herat, and Kandahar. It forms a kind of *chhatni* or pickle with other fruits and vegetables.

105. *Betula alba* is the Sap obtained in the spring by boring a young vigorous Birch. Birch is found in India. The Indian Birch is *Betula Bhojapatra*.

106. *Bignonia catalpa* is an American plant.

107. *Boldo* or *Peumus boldos* is an American tree. The dried rind is used for tincture.

108. *Boletus laricis* is a European fungus, used in the dried state for tincture. *Boletus luridus*, *B. satanas* and *B. suaveolens* are also fungi and found in Europe.

109. *Borista* is *Lycoperdon bovista* or Warty puff ball. It is a European fungus.

110. *Brachyglottis repens* is the New Zealand Puka Puka.

111. *Brassica napus* is the Cole or Rapeseed. In Watt's Dictionary of the Economic Products of India, *B. napus* forms a subspecies of *B. campestris*. The European classification divides it into three subspecies. They are as follows :—

Brassica campestris. Subspecies 1. *Campestris* proper. Colza or wild Navew. Subspecies 2. *Napus*. Rape, Navew or Cole seed. Subspecies 3. *Rap*. The turnip.

According to him the Indian classification differs from the European division just mentioned. The former is :

Brassica campestris.

Var. 1—*dichotoma* (Kali Sarson).

Var. 2—*glauc* (Rapeseed).

The Bengali name is *Swet rai* (স্বতরাই). The Sanskrit appellation is *Rajika* (রাজিকা). *Brassica juncea* is also called *Rajika*.

Var. 3—*toria* is a subspecies of *napus*.¹

It appears that there is difference between *B. glauca* (*napus*) and *B. juncea*; but it is so slight that for commercial purpose they can be taken as one. For medicinal purpose they should be differentiated. *B. glauca* (*napus*) has the following characters: "The leaves are amplexicaul, the lower deeply pinnatifid, the ground ones being quite glabrous; Pods very thick, laterally compressed, $\frac{1}{2}$ to $\frac{1}{2}$ inch in length, with a broad flattened beak; seeds round, smooth, light yellow or white but occasionally deeper coloured."

Brassica juncea—"A tall erect annual 3—5 feet in height, with bright green foliage, rarely glaucous, more or less hispid towards the base, stems much branched, smooth, terete, often tinged purplish red, especially at the joints. Leaves not amplexicaul, the lower ones stalked, lyrate or pinnatifid, margin variously serrate dentate, often very hispid, especially when young; petioles channelled, upper leaves sub-sessile, linear-lanceolate, smooth, dentate, or the uppermost quite entire. Racemes terminal; flowers stalked; pedicels elongated in fruit, divaricate, calyx with linear boat-shaped spreading sepals. Petals small, bright yellow. Pods slender, 1—2 inch long, sub-compressed torulose, beak about $\frac{1}{2}$ the length of the pod; valves with a prominent midrib. Seeds small, sub-globose, dark or reddish brown, with a rough reticulated testa." (Duthie and Fuller).

The comparison of the seeds alone may point out the difference. *Brassica juncea* yields seeds which are much smaller than *Brassica glauca* (*napus*), and many other species of *Brassicaceae*.

112. *Brucea antidysenterica* is the *Nucis Vomicae* cortex or False Angustura. *Angustura vera* is the bark of *Galipea cuspana*. It is an inhabitant of South America and belongs to the natural order *Rutaceae*. *Brucea antidysenterica* is the bark of *Nux vomica*, and belongs to the natural order *Loganiaceae* and lives in India. There is a slight resemblance between the two in appearance. Except the outward appearance, all other qualities

are widely different. It is unreasonable, in the advanced state of our knowledge to call *Nux vomica* bark False *Angustura*.

We have prepared tincture of the bark which has presented brilliant red colour. The tincture of the *Nux vomica* seeds does not attack the inner sides of the glass vessel in which it is placed. On the other hand the tincture of the *Nux vomica* bark leaves a lasting red colour inside the glass bottle in which it is placed. Apart from the difference of their physiological and therapeutic effects, the appearance of the two tinctures can be differentiated.

113. *Bryonia alba* lives in Europe. Recently, *Bryonia dioica* has been substituted in England for *B. alba*. Clarke writes: "*Bryonia alba* is one of the polychrest remedies of the homoeopathic materia medica. The common *Bryony* of this country (England) is the *Bryonia dioica*, which has been substituted for the *B. alba*, and has probably identical properties; but the *Alba* alone has been proved, and consequently this should always be dispensed." In India, there is *B. laciniosa*, and it is said to be found throughout India from the Himalaya to Ceylon.

There is no particular Bengali name of *B. laciniosa*, though Watt calls it Mala. We think it is the Globe fruited Bryony, whose Hindi name is *Moosmush*. *Bryonia epigaea* is called Rakus gudeh, Loofa and Azunulfeel. *Bryonia scabrella* is Fashura or Agumukee. On the whole the identification of *B. laciniosa* in Bengal remains unsatisfactory. Though it is said to be widely spread in Bengal, yet the curiosity is that it has received no proper attention to ascertain its Bengali name.

114. *Buxus sempervirens* is a native of Europe, Africa and Asia. It is the Boxwood tree. In India it is an evergreen shrub or small tree met with in the Suliman and Salt ranges. According to Watt its Panjabi name is Papri, Papar, Papur, Paprang. The Persian name is Shumshad.

115. *Cactus grandiflorus* inhabits Mexico and the West Indies. *Cactus Indicus* is *Opuntia Dillenii* (ফনিমনস).

116. *Cajuputum* is Cajuput oil. It is distilled from the leaves of *Melaleuca leucadendron*. The plant is a native of the East

Indies. It has been introduced in India. In Hindi and Bengali it is called Kayapati.

117. *Cainca* is *Chiscocca racemosa* and lives in America.

118. *Caladium seguinum* is the Dumb Cane. It comes from South America and belongs to the Aroideae family.

119. *Calendula officinalis* or Marigold lives in Europe and Asia minor. In India, it is found in the fields of the Panjab and Sind. In the Trans-Indus tracts it is called Zergul. The plant is now cultivated in the gardens of Bengal. *Tagetes erecta* or Gendba (গেন্দা) has mostly taken its place.

120. *Calla Aethiopica* comes from Africa. We have *Calla virosa* or Beesh Kuchoo (বিষকচু).

121. *Calotropis gigantea* is Mandara or corruptly called Madara. It belongs to the family of Calotropis or Swallow-worts and is widely distributed in India. The white-flowered variety is called in Sanskrit Mandara (मन्दार), and in Bengali Swet Akanda (স্নেত অকন্দ). The Sanskrit word Arka (अर्क) stands for both the varieties which hold the white and purple flowers. *Calotropis gigantea* specifies the plant with white flowers. *Calotropis procera* has the purple flowers. Properly speaking the flowers are either greenish yellow or purple. For medicinal purpose, *Calotropis gigantea* is generally used. The Persian and Hindi names applicable to the two species are Aruk, Ashur, and Mudar respectively.

122. *Caltha palustris* is Marsh Marigold. It is observed in Asia, Europe and America. In India, it occurs in the marshes of the Western temperate Himalaya, from Kashmir to Nepal. In the Panjab the name is Mamiri, Baringu.

123. *Camphora* is Camphor or Kafur. The Sanskrit and Bengali names are Karpur (कर्पूर). The Hindi name is Kafur. There are three varieties of Camphor. 1. The Formosa camphor. 2. The Barus camphor. It comes from Barus a town in Sumatra. It has several names, as Karsur Barus, Borneo camphor, Malay camphor. In India the special name for this variety is Bhimseni or Baras Karpur. 3. The Blumea or Ngai camphor. It is chiefly prepared in Canton and the island

of Hainan. The Formosa camphor is prepared from *Cinamomum camphora* in Formosa. The Barus camphor is the product of *Dryobalanops camphora*, and the Blumea camphor comes from *Blumea balsamifera*. The last species is common throughout the Eastern Himalaya, the Khasia Hills, Chittagong, Pegu, and Burma in India. These varieties of camphors are used in medicine. There are other camphors used in perfumery, as Tobacco camphor, Camphor of Thyme, Patchouli camphor, Neroli camphor, Bergamot camphor, Barasa camphor, Sassafras camphor, and Orris camphor. The Bengal Karpur is prepared from the common aquatic weed *Limnophila gratioloides*. The product is an impure species, though commonly used in Bengal.

(To be Continued)

The Seventh International Homœopathic Congress

The seventh quinquennial Homœopathic Congress will take place during next September in the Atlantic city, New Jersey, a famous watering place of the United States, America. The special attraction is the show of objects concerning homœopathy. The first day will be devoted to formal meetings and addresses. The second will be for the Principles and Propagandism of Homœopathy. The diffusion of homœopathy in India on a methodical basis should receive attention of the Congress. In Bengal, homœopathy has been favourably received. In other presidencies, it has not created a favourable impression. The least is in Bombay, Madras and Burma. Attempt should be made by qualified homœopaths, to invade other presidencies besides Bengal. If homœopathic schools are at all necessary, they should be established in those provinces. The third day will receive attention of subjects concerning Materia-Medica, Drug Pathogenesis, Provings, etc. India is a store house of medicines. Opportunities may be taken to introduce indigenous poisonous plants with their provings in homœopathic materia-medica. What we earnestly desire is, the new provings of the old drugs by the Indians. It will render an additional help for the use of the old and tried medicines in diseases which have not received a proper share in their administration. The fourth day will take up Clinical Medicine and Pathology. This broad field can be advantageously

used for tropical diseases, especially those which are more confined to India, than to other countries. Pediatrics and Sanitary Science should receive proper attention from India. The last is a comprehensive subject having a character of its own, differing from that of the other countries of the world. Perhaps, Sanitary Science includes Demography as well. We hope all properly qualified practitioners will join to make the undertaking a successful business.

Except this general notice, other particulars are wanted. No mention has been made to whom papers should be sent. We think the General Secretary is empowered to receive them. The history of the progress of homeopathy in different countries is included within Propagandism of homeopathy. Special invitations are necessary to write the historical progress of homeopathy in each country, as it requires sufficient enquiry to come to a decision. As for tropical diseases, effort should be made by qualified practitioners to deal with certain subjects, which have received their particular attention. Pathology should be the main basis on which clinical medicine should be constructed. The interpretation of symptoms by physiologico-pathological facts are necessary. Normal and abnormal histology should be the guidance.

The Seventh Quinquennial International Homœopathic Congress.

Preliminary Announcement.

At a joint meeting of the Executive Committee of the American Institute of Homœopathy and the Institute's Special Committee on the International Congress held in New York January 31st and February 1st, it was voted to hold the Congress in Atlantic City, New Jersey, during the week of September beginning on the 10th and ending on the 15th. The Institute will hold its business sessions daily and independently, but will merge its scientific sessions with those of the Congress. In accordance with these plans the INSTITUTE will hold its opening meeting on Monday afternoon, September 10th, at two o'clock, when the preliminary business will be transacted, the Memorial Exercises held and the usual reports received. Thereafter the Institute will hold its business sessions from nine to ten o'clock daily until adjournment.

The CONGRESS will be called to order for organization and preliminary work at four-thirty o'clock Monday afternoon, September 10th. On Monday evening the formal opening of the Congress will take place, when it is expected, that various addresses of a semi-popular nature will be made, and to which the public will be invited. On the following days of the week the Congress will have the hours from ten until one o'clock. The congress will also hold afternoon and evening sessions during the week as required. It is expected that the affiliated and Sectional Societies will hold their sessions during the afternoons and evenings of the week, leaving the mornings entirely free for the Congress.

Friday evening has been set apart for social recreation, and for that evening the Congress, Institute and visitors will be the guests of the Local Committee of Arrangements.

The subjects to be discussed by the Congress have been classified under the bureau system of the Institute, and the following order was adopted. On Tuesday there will be discussed the Principles and Propagandism of Homœopathy. The subjects for Wednesday's sessions will be connected with Materna Medica, Drug Pathogenesis, Provings, etc. At the Thursday sessions will be considered Clinical Medicine and Pathology. At the Friday sessions will be considered subjects pertaining to Pediatrics and Sanitary Science. Saturday will be utilized for adjourned meetings and concluding exercises.

At the meeting referred to, it was voted that essays on subjects connected with Surgery, Gynæcology, Obstetrics and other specialties be referred to the appropriate Sectional Societies. By such an arrangement, papers from our foreign colleagues can be assured of an appreciative reception.

All of the Sectional Societies have not yet been heard from, but we have been assured by some that the general plan above outlined is approved, and it is expected that all of the Sectional Societies will co-operate with the Institute and the Congress in making the forthcoming meeting at Atlantic City the most successful in the history of Homœopathy.

We have been assured by the Local Committee of Arrangements that if notified in season they will have ample hotel accommodations for a large gathering. On account of the season of the year it will not be possible to arrange for hotel headquarters as is usually the

custom. In all probability however, the headquarters of the Congress Institute and Allied Societies, will be at the place where the meetings are to be held. The facilities for Conventions offered by Atlantic City are unsurpassed, and there will be ample room for Institute, Congress and Sectional Societies, and Committees. There will be no crowding. This world-famous watering place and health resort will be at its best, and the local Committee will do their best for the entertainment of their guests.

COMMITTEE.

- J. H. McCLELLAND, M.D., Pittsburgh, Pa, *Chairman*.
J. B. GREGG CUSTIS, M.D., Washington, D.C.
H. F. BIGGAR, M.D., Cleveland, O.
O. S. RUNNELS, M.D., Indianapolis, Ind.
J. P. SUTHERLAND, M.D., 302 Beacon St., Boston, *Sec'y*

The Special Committee of the AMERICAN INSTITUTE OF HOMŒOPATHY on the INTERNATIONAL HOMŒOPATHIC CONGRESS has decided to arrange for a Practical Exhibit of Homœopathy to consist of the following —

1. *Hospitals*. Photographs or architect's drawings of the exteriors and interiors, showing the wards, operating-rooms, etc. Reports in tabular or pamphlet form.
2. *Schools*. Photographs or drawings showing the exteriors, lecture halls, laboratories, museums, etc., photographs of faculties, announcements and catalogues.
3. *Dispensaries*. Photographs and reports.
4. *Pharmacies*. Photographs of exteriors, interiors etc,
5. Educational Exhibit from medical schools :—
 - (a). Anatomical, pathological, embryological and other specimens prepared for museum or teaching purposes.
 - (b). Apparatus for clinical diagnosis, physiological and other laboratory work.
 - (c). Microscopical specimens showing normal and abnormal histology.
 - (d). Photographs illustrating methods of work, student's laboratory, books, etc.

6. *Literature.* periodical¹ and permanent.
7. *Models* of buildings and monuments.
8. *Large Photographs* paintings or busts of famous homœopaths.

An Exhibition such as is outlined would show at a glance, and in an impressive manner, the status of homœopathy.

It is expected that the project will appeal to you, and it is hoped that the Committee will have your hearty co-operation in making this feature of the Congress a memorable success. The Secretary would be glad to hear immediately what you would like to put into the Exhibit.

J. P. SUTHERLAND, M. D.,
Secretary.

EDITOR'S NOTES.

Modern Alcohol Therapy.

The *North American Journal of Homœopathy* for May, has the following :

" Dr. Blackader thus summarizes the present position of alcohol in therapeutics :

1. It is not an efficient cardiac or respiratory stimulant, but given in frequent, small doses its action on the circulation may be regarded as favorable. In some conditions with a determination of blood to the interior of the body, as indicated by cold extremities, livid skin, small pulse, scanty urine and high rectal temperature (a condition described as bleeding into the splanchnic area), alcohol by dilating superficial vessels and equalizing the circulation, may be of benefit. It may also be of value in counteracting the contraction of peripheral vessels in the chill or rigor associated with the onset of disease.

2. Alcohol is not a nervous stimulant. It is narcotic, benumbing sensation, including that of fatigue, allaying subjective symptoms relieving nervous strain and promoting rest. No other narcotic can be used so freely with so few injurious by-effects.

3. In disease it is a valuable food, replacing carbohydrates, and as a general rule, saving proteid metabolism. It places no tax on the digestive organs; on the contrary, if used intelligently, it increases their secretion, thus in low and asthenic conditions assisting digestions and favoring the absorption of other foods. In such conditions it may also have a favorable action on hepatic cells, stimulating them to increased activity.

In infections of all forms, alcohol should be used cautiously. In such cases it may be of value to the system either as a food, or as favoring the digestion and absorption of other foods, but, in large amounts it may and probably will do harm by destroying the resistant power of the organism.

The effect of alcohol varies much with the individual, and its use demands discrimination and careful, frequent observation. Its prolonged use tends to degenerative changes in heart, blood-vessels and secretory organs."

The use of alcohol as medicine has been partially controverted. We can safely say that its experiment in India as medicine has failed. It is neither a cardiac nor a respiratory stimulant. As a nervous stimulant it has no place. "Pick me up" is rather a fanciful idea from the habit of using it. It can not serve as food, taking the place of other foods. The Indian experience is contrary to its use in any form.

Pulsatilla.

The *Monthly Homœopathic Review* of May, shows the following Medical piracy, which has become too common with the old school.

In the *British Medical Journal* for March 31st, in the paragraph "Letters, Notes, and Answers to Correspondents," and under "Answers," we find the following.—

PULSATILLA

"A. DE ST D—Pulsatilla, the dried herb of *Anemone pulsatilla* L., *Anemone pratensis*, is official in the United States *Pharmacopœia*, and there is a tincture in the Formulary of the British Pharmaceutical Conference. It contains a yellowish, acid, volatile oil, the active-principle of which is a peculiar crystalline camphor, readily decomposed by water in anemonin and iso-anemonic acid. We learn from the new editor of the *National Standard Dispensary* that "According to Galen the anemones are endowed with acid drawing, cleansing and opening virtues. When chewed anemone excites a secretion of mucus, its juice cleanses the brain and nostrils, and lessens or removes opacity of the cornea. It purifies ulcers, cures lepra and pityriasis, is emmenagogue and galactagogue. Neither Dioscorides, Pliny, nor the Arabians added anything to the enumeration, and the drug seems to have been almost forgotten until the close of the eighteenth century." Since then it has been recommended at different times in the treatment of cataract, paralysis, rheumatism, melancholia, syphilis, dysmenorrhœa, and a host of other morbid conditions. According to Martindale and Westcott's *Extra Pharmacopœia* it has been used in catarrh of the air passages with spasmodic cough."

Pulsatilla, our old and tried homœopathic medicine, used, till quite recently, to be laughed at as being a homœopathic remedy. But

lately, it has been "discovered" as a "new remedy" by the old school, and in the very disorders for which it has been used by us ever since the time of Hahnemann. We are not only glad to know that it is beginning to be appreciated by the old school, but to see that the very "orthodox" *British Medical Journal* actually now brings itself to notice the medicine so prominently as the above extract from it demonstrates. We would suggest to the editor that if he wishes to give further information on the subject to his readers, he will find all he wants in any Homœopathic Materia Medica, or any book on Homœopathic Medicine."

Intracorpuseular Conjugation of the Malarial Plasmodia and its Significance

From the *Interstate Medical Journal* of February, we get the following note

"Charles F. Craig (*American Medicine*, Vol. X, No. 24-25.)—The most important and significant contribution to our knowledge of the life of the malarial parasites and its relation to the course of malarial infection in man, that has been published since the work of Ross, Grassi and others some ten years ago, is this paper of Craig. It is the more interesting since it seems to show that we are still too ready to make so-called final conclusions. Craig's work has been anticipated by that of Ewing, who some years ago described forms of the parasite that he was inclined to believe to be the result of conjugation of two parasites attached to the same corpuscle. Unable to directly observe this process of conjugation, he left the subject unfinished. Craig has made it the task of an immense amount of work on hundreds of cases of malaria of every type and every clinical form to bring clearness. His result is that in every case of malaria, no matter what type, conjugation regularly occurs, not between the larger forms of the parasite, but always at the stage of the ring form. The process has been many times followed up completely in the fresh blood, and has in stained material been observed very frequently by all observers as rings with two chromatin dots. In older stages these conjugated organisms cannot be with certainty differentiated from un conjugated ones at the stage of chromatin division before sporulation, a point made in reflection on Ewing's observations. The time in the course of the infection and the frequency of the conjugation during it has been the object of much tedious work that, however, has resulted

in facts that theoretically and practically are of great weight. It was found that in every case of malaria the parasites multiply for a number of generations asexually by sporulation and without conjugation, without causing any more than slight symptoms. After a certain time, the parasites become exhausted, as the expression is, and now conjugation begins, and, with conjugation, the clinical attacks of the disease. If, for some reason, the conditions for conjugation are not given, the parasites perish, and clinically, we observe a spontaneous recovery. Craig's work has given a full explanation of the processes in the acute and recurring malarial attacks, the absence of the latter in latent infections, and the disappearance of the infection in cases of spontaneous recovery. Conjugation is a process to preserve the reproductive power of the organism by rejuvenescence. It is not necessary for sporulation, as in latent malaria. The latter obtains without conjugation. Conjugation in malaria is analogous to the same process observed in so many other protozoa, the interpretation of which by Bueschli was started in the way that Craig has indicated. It is always a means to rejuvenate a race exhausted by the continued fissions of the individual cell. Calkins, for infusoria has illustrated this admirably. Practically, Craig's discovery will be of great value, as it enables us to deal now clinically with malaria on a much firmer basis than before. Indirectly, Craig's observations have been confirmed by the investigations of Koch on certain forms of *protoplasma*, in which he also saw conjugation."

The intra-corporal conjugation of malarial parasites is full of significance. The curious process takes place when the intensity of their propagation ceases. The first stage of malaria is, therefore, due to a-sexual sporulation, which increases their number. The continuous increase gradually ceases. Those persons in whom prevention of conjugation takes place, escape further attacks. If they have attained this state by medicine, the medicine is said to have cured them. The curious fact is that stringent observation of diet without administration of medicine may confer the spontaneous recovery. Such facts have been observed by many persons. The theory of spontaneous recovery gives the reason of cure with or without medicine. In those persons who live in circumstances where conjugation is possible, they get the second stage of the disease. For them most medicines prove failure. In fact, it has often been clinically observed that good drinking water and food are essentially requisite to cure patients of malaria than medicine.

Laissez Donc!

In the May number of the Indian Homœopathic Review, the following foolish stuff appears under the signature of J. N. M. "Is it not a matter of great shame that such an eminent authority as our late illustrious colleague Dr. Sircar had nothing more to suggest after he had mentioned the use of *Ignatia* for plague and that on the authority of a pseudo homœopath like Hongnberger.. "

One of our friends admired him by saying "Plug is the prevailing pest."

Ignatia Beans

Hongnberger recommended the use of pendants (बाहुनि) of Ignatia beans in plague. Dr. Mahendra Lal Sircar advised it with a view to see its efficacy. This has ill-tempered a certain medical practitioner. His education can not bear the use of Ignatia beans as pendants. For his knowledge we point out the fact of the efficacy of Ignatia beans in a certain respected family of Calcutta. Babu Sashi Bhusan Chatterjee, the well known geographer, of 8 Dixon's Lane, Calcutta, has informed us of the value of the beans. In a family consisting of more than fifty persons, they all use the pendants. Only one daughter-in-law did not use them. She was alone taken off by plague. So much for the instruction of J. N. M.

Medicine in the Far North.

The *Doctor* of April says:

"Gynecology would be useless in the Arctic regions according to the observations of Dr. Senn. The art of healing has no place at all with the Eskimos. They have neither physicians nor medicines and the applications such as are common in domestic practice are entirely unknown, in fact never thought of. Even in accident cases, or in internal diseases, remedies have no place with the natives. There are no tumors of any kind known among them."

Lipomas and fibromas, common in the tropics, have never been observed in the Arctic regions. Warts or retention cysts of the appendages of the skin are never discovered. The Eskimos never wash their faces, hands or bodies. They never bathe. The underwear for

the body, in the case of the women, is made of bird skins. The outer garments are of fox or bear skins; they are crudely dried and no attempt at removing the odor is ever made. The entire family sleep in one bed. A community interest prevails, the women exceed the men in numbers, and the value of a man's life is placed at about his ability to aid in the support of the community.

Surgery is entirely unknown. The art of obstetrics is crude beyond belief. The woman in labor is really cared for by all the members of the community. The notice of approaching confinements is communicated to each hut by tapping on the roof, no word is spoken. At the time of the birth of the child, a woman who has been confined at least once, remains with the expectant mother until the birth is completed. The umbilical cord is hacked in twain close to the child by means of a stone; no hemorrhage following. The mothers nurse their babies for two years. Infant mortality is very rare.

There are no surgical instruments of any kind. A pair of crutches made for a man once injured, and who had been obliged to crawl for many months, created intense excitement when he was taught how to walk by their use.

Female diseases are never known, except possibly a few cases of gonorrheal infection in seaport towns "

Happy are they who are beyond the province of the doctors. Civilisation is not an unmixed blessing. They produce, in many instances, more mischief than good. According to Kiafft Ebing insanity is mostly the result of "syphilisation and civilisation."

Astrological Therapeutics.

The *Doctor* for April has the following :

"Babylonico-Assyrian civilization possessed in its earliest ages a well-developed system of astrologic medicine, as is evident from writings bequeathed to us from antiquity," Dr. Hugo Magnus tells us in his new volume, "Superstition in Medicine." From the cuneiform tablets in the British Museum, the following rules appear, which the Assyrian and Babylonian court astrologers reported to the king.

Tablet 69a says: "If the wind comes from west upon appearance of the moon, disease will prevail during this month."

Tablet 207a: "If Venus approaches the constellation of Cancer, obedience and prosperity will be in the land . . . the sick of the land

will recover. Pregnant women will carry their confinements to a favorable termination."

Tablet 163: "If Mercury rises on the fifteenth day of the month there will be many deaths. If the constellation of Cancer becomes obscured, a fatal demon will possess the land and many deaths will occur."

Tablet 232: "If Mercury comes in conjunction with Mars, there will follow fatalities among horses."

Tablet 175: "If a planet becomes pale in opposition to the moon, or if it enters into conjunction with it, many lions will die."

Tablet 195: "If Mars and Jupiter come in conjunction many cattle will die."

Tablet 117: "If the greater halo surrounds the moon, ruin will be visited upon mankind."

Tablet 269: "If an eclipse of the sun occurs on the twenty-ninth day of the month of Jyestha, there will be many deaths on the first day."

The relation between astrology and therapeutics in ancient times is well worth our study. The efficacy of using metals forms a part of the astrological therapeutics. Each planet is propitiated by the use of particular metal and colour. The Hindu astrology is full of such instructions. Metallo-therapy is still an ill-understood subject. We have noticed much benefit being derived in some cases by the use of metallic pendants. There are medical sceptics who doubt the good effects of pendants either in the form of metals or herbs. We do not exaggerate the fact, when we say, that the efficacy of these pendants (सिद्धि) is daily observed. Dr. Mahendra Lal Sircar has been found guilty by an ignorant man of medicine for his recommending the use of Ignatia beans as prophylactic of plague. Our only answer is, "Learn before you condemn."

The Daily Mail and Homœopathy.

We take the following from the *Monthly Homœopathic Review* of May:

IN the issue of the *Daily Mail* of Feb. 28th the following under the title of "Nux Vomica for Epilepsy," appeared:—

"Pathetic letters have recently appeared in the *Daily Mail* calling attention to the sufferings of the epileptic, the wide-spread range of this formidable malady, and the necessity for some special measures by the State. It has been said that no disease has had so many specifics which have been found valueless.

"An independent medical expert invited to deal with the letters that have been published contributes to the *Daily Mail* the following interesting and encouraging notes upon a form of treatment which has not, however, commanded the support of the medical profession as a body :—

"Some forty years ago the attention of Dr. Tyrrell, of Harley Street, was drawn to the work of Vanderkolk, of Utrecht, who had pointed out the marked similarity between the progress of an attack of epilepsy and cases of strychnine poisoning. It was this little fact that gave Dr. Tyrrell a hint as to the line of treatment in epilepsy.

"Conium is markedly antagonistic to strychnine, and Dr. Tyrrell was led to give this drug a trial in his cases of epilepsy. He found that the condition and all the symptoms were aggravated under treatment with conium, and following on this asked himself if conium is antagonistic to strychnine and aggravates epilepsy, why should not strychnine improve and modify the condition? Dr. Tyrrell immediately experimented with strychnine. Large doses were given, with the result that the epileptic attacks were modified and in many cases inhibited, but only disappeared to recur later. He argued that as large doses gave only temporary relief, probably small doses continued over a longer period would lead to permanent cure.

"The doses of strychnine was accordingly reduced, and reduced again and again, with increased benefit to the patient and marked and continued improvement. When the doses had been reduced to almost a minimum, it occurred to Dr. Tyrrell that a milder form of the drug might be substituted, and in searching for this form he fixed on *nux vomica*.

"Commencing with a moderate dose this was reduced again and again until a very minute quantity sufficed. Dr. Tyrrell found that the smaller the dose the better the results, and he now uses *nux vomica* purely as a form of food and tonic.

"It is this minute dose which does not find favor with the profession; but Dr. Tyrrell suggests that because his dose is not mentioned in the *Pharmacopœia* it should not be argued that a small dose will not suffice. He has every justification for his belief, because the small dose has in his hands cured many epileptics, and led to great improvement in others.

"One case will illustrate Dr. Tyrrell's point. A man whom he was treating was given a slightly increased dose of *nux vomica* which was followed shortly by irritation and twitching of the muscles of the wrist. On going back to the small dose this condition disappeared,

and did not return. Dr. Tyrrell finds that all forms of irritability of the brain caused by nervous exhaustion can be cured by his method. Insomnia, neuralgia, and chorea come under this head "

A reply to the above appeared in the *Daily Mail*, March 3rd, from Dr. J. H. Clarke, and a layman also. We append Dr. Clarke's letters.—

To the Editor of the "Daily Mail."

SIR,—In Wednesday's *Daily Mail* there is an article describing a treatment for epilepsy discovered by Dr. Tyrrell, of Harley Street. If Dr. Tyrrell is reported correctly, he has discovered something vastly more important than a cure for epilepsy—he has discovered nothing less than the homœopathic law (likes cure likes) and the power of the infinitesimal dose.

Without calling in question the originality of Dr. Tyrrell in the matter (great minds often hit upon great ideas independently), it ought to be pointed out to those of your readers who are unaware of the fact that Dr. Samuel Hahnemann made the same discoveries over 100 years ago.

In the year 1790 Hahnemann published the fact, observed on his own person, that cinchona could produce all the symptoms of ague as well as cure that disease, and from that time onwards he tested all known drugs, nux vomica among the number, on himself and his friends. The popularity of nux vomica as a remedy to-day is due to Hahnemann's observations and the work of homœopaths. I should advise those of your readers who want homœopathic treatment to apply to homœopathic doctors. Their names are to be found in the *Homœopathic Directory*, and there are numbers of them within a mile of Harley Street.

JOHN H. CLARKE, M.D

The following letter was also sent to the *Daily Mail*, but was not inserted —

To the Editor of the "Daily Mail" •

SIR,—Having seen your interesting article on "Nux Vomica for Epilepsy," in your issue of to-day, you will pardon my trespassing on your valuable space by saying that the action of nux vomica in epilepsy is pure homœopathy. The very fact that strychnine produces in full doses in a healthy person convulsive movements closely similar to those of epilepsy, a fact which is well known, is sufficient proof of this. Mr. Tyrrell, who published a book on "The Treatment of Epilepsy and Kindred Disorders" in 1887, and also wrote papers in

the *Lancet* and *Medical Gazette* on the same subject, may have had his own theories on the action of strychnine and nux vomica in the treatment of epilepsy, but these in no way alter the *facts*, which exist and are well known. To use a remedy for the cure of a complaint, which in full doses given to a healthy person produces almost precisely similar symptoms, is a piece of pure homœopathy, and its value as a remedy is explainable in no other satisfactory way. Mr. Tyrrell's remarks on the small dose fully tally with this view. Long before Mr Tyrrell's writings, nux vomica was known as a homœopathic remedy for the disease, and, when indicated, is of great value. Pereira in his "Materia Medica" naively remarks: "But judging, from its physiological effects, it would appear to be calculated to act injuriously rather than beneficially in this disease." Of course it would on any other than the homœopathic law of similars.

Your, etc.,

DR. DYCE BROWN, M A , M D.

The gradual absorption of Homœopathic medicines, by the Orthodox School without acknowledgment, shows its honesty. The startling fact is that the action of these medicines comes to them as revelation.

CLINICAL RECORD.

Indian

CONFLUENT POX AFTER VACCINATION

BY DR. H. C. RAY CHAUDHURI, L. M. S.

B—a girl aged 12, residing in Creek Lane, was attacked with small pox 6 days after vaccination. Two sisters and one brother were vaccinated on the same day and from the same tube, and all were attacked with small pox. Before this, the family had had no case of pox. One sister and one brother had mild attack, but with B., it was a severe type of confluent pox. I saw the girl on the 4th April, 1906. She was getting fever and had delirium at night. It was difficult to take temperature, for the two axillae were covered with pocks. The father of the girl, being an amateur homoeopath, used many homoeopathic medicines, including *Melanchin*, *Antnu.*, *tut*, *Saracena*, and *Varolinum*. I administered her *Bell* 30.

5th April. She felt better of the burning and itching. *Bell* 30 continued.

6th April. Gradually improving. Had no delirium. *Bell* 30. Up to the 9th April *Bell* 30 was continued. Afterwards she had *Plucho*. I was subsequently informed that she completely recovered after a few days.

Remarks

This case is instructive showing the bad effects of vaccination. The three children who were vaccinated from the same tube suffered from small pox, and the girl had a terrible attack of confluent pox. It is in vain to say, that the fate of the girl would have been worse had she not been vaccinated. The terrible confluent type did not leave an inch of space in the whole body to be invaded. The girl did not die for the homoeopathic medicines. Any orthodox treatment, perhaps, would have been disastrous. This case and a few others of like nature have proved fatal to the theory of vaccination. It should be said that the girl had been vaccinated for the first time a few years before. This was re-vaccination.

Foreign.

FOUR CASES OF ULCERATIVE ENDOCARDITIS.

BY EDWARD M. MADDEN, M.B. EDIN., M.R.C.S. ENG.

Physician to the Phillips' Memorial Hospital, Bromley, Kent.

WITH the exception of Dr. Byres Moir's paper on "Ulcerative Endocarditis," in the first volume of the *London Homœopathic Hospital Reports* in 1891, and a paper on the same subject, also by Dr. Moir, in October, 1898, read before this Society, I do not know of any special reference to this disease in any of our journals or society records in this country. Nor is this altogether surprising when we consider how little satisfactory are the results of treatment, and how little, if any, superior have been the results in those cases treated homœopathically compared with those not so treated.

But cases of this disease are so intensely interesting, and for so long a time give one the feeling that they surely *ought* to be cured, if only we could haply light on the true similitum to the condition, or the true antidote to its cause, that I hope you will pardon my taking up a short period of your time in narrating four cases of it which have come under my notice in recent years, and some of the reflections they give rise to, though I regret to say I have no case of cure to report to you.

The first case of this disease in which I recognised its true nature was really a case of my partner's, but I saw her several times with him during its earlier history, took entire charge of her for three or four weeks during his holiday in October, and continued to see her frequently with him right up till her death, so was enabled to follow the history of her case carefully throughout.

CASE 1.—Mrs. B., aged 38, had had rheumatic fever when a girl of 15. Was first seen for this attack on June 9, 1899, when she gave a history of having had influenza a month before, and had never regained her health since. Complained now of erratic rheumatic pains, worse on movement, and slight pyrexia, her temperature being normal each morning, and reaching 100°, or a little over, at night. There was a soft mitral systolic bruit, but no cardiac symptoms of any severity. She was kept in bed, and had the usual treatment for, as we supposed, a subacute attack of rheumatic fever. She did not, however, improve, and by July her temperature was averaging 102° or over at night, and one day reached 104°, and she had the general appearance of one suffering from a septic fever, with heavy sweat during sleep, great depression, and failing appetite, &c. On

July 25, Dr. Moir saw her in consultation with us, and diagnosed ulcerative endocarditis, and advised the use firstly of naja, which was given in the 3c. for a week, and then nuclein in 1 grain tablets, which were given her every three hours for a fortnight, but with no apparent effect from either.

On August 20, she had a subcutaneous injection of nuclein, 10 m, on 21st of 12 m, and on 22nd and 23rd of 15 m, each, but the temperature was, if anything, raised rather than lowered after them, and by this time it rarely fell below 100°, and often reached 104° or over at night.

On September 29, Dr. Moir saw her again, and, while giving a very unfavourable prognosis, he suggested the use of antistreptococcus serum injections, and also to have the blood examined for cocci, which was done with negative results. The injections of serum were begun on October 10 in 10 cc. doses, and repeated for six doses, at first daily and then on alternate days, but except for bringing out an urticarious erythema, and aggravating her tendency to vomit, it had no other effect on the patient, and none at all on the disease, which all the time was steadily advancing, and we got evidence of infarcts in the kidneys producing hæmaturia, in the lungs and probably in the spleen, and various small surface ecchymoses, while the heart was now much more definitely affected, the bruit being loud and continuous, and the patient suffering at times from acute cardiac pains and violent palpitations. The most prominent symptoms nearly all this time from the patient's point of view were, however, gastric, flatulent dyspepsia, vomiting and complete anorexia, together with great and increasing weakness, being practically all that she complained of. The hectic fever continued unabated all the time up to January 18, 1900, when it fell below normal, and remained low till her death eight days later, during the whole of which she practically took no food of any sort whatever, and finally her life just went out like a candle burned down to the socket.

CASE 2 — Miss M. M., aged 29, had congenital aortic and mitral deficiency, as her mother had also, and hence had led a semi-invalid life from childhood, and had also been liable to become anæmic whenever ill or run down. In the beginning of March, 1904, she had influenza, after which she remained very weak and anæmic, and felt her cardiac weakness considerably increased, accompanied by a sense of aching and stiffness all over the left side of her chest. As she was staying away from home at this time, I treated her chiefly by correspondence and only saw her once, when she came to friends near for

this purpose on April 8; I then found her heart's action very tumultuous and rapid, and the bruits considerably increased from their usual intensity.

The medicines prescribed during this stage were soda salicycl. 3c, cratægus, strych., phos. 1-300, and naja 4c.

She did not, however, as she had done after former attacks of influenza, rally in any degree under these drugs, and about the beginning of May she was found to have a mildly hectic type of fever, when I prescribed arsen. iod. 2x and naja 4c in alternation, under which she seemed to gain somewhat in her general feeling of health, but the temperature remained unaltered, and she had occasional slight rigors. "

On May 31 she was brought from Midhurst, in Sussex, to Chislehurst, so as to be under my care, coming by train in an invalid carriage, but the journey tired her very much, and on her arrival she had another rigor, during which her temperature reached 103.8°.

After her arrival she was treated more or less like a consumptive, going through the "open air cure," spending as much of her day as possible on a couch in the garden or verandah, and having her windows open all night; she was also encouraged to eat as much as she could possibly take without indigestion. The disease ran a long and checkered course, with many ups and downs, but until quite the last the patient was very rarely conscious of being seriously ill, feeling chiefly weak and inclined to dyspepsia, and used constantly to refer to what she would do when she got well again.

For medicines she had, of course, a very large number, the full list of which would be too long to give here, but among the most important of them were aconite, arsen. alb and iod, digitalis, both in tincture and infusion, naja 3x, 4c, and 6c, pyrogen 6c, echinacea, lachesis 4c, ignatia 1x, apis 3, and sulphur 30c.

I had the advantage of a consultation with Dr. Moir twice, and one of the leading old school consultants (at the urgent request of the patient's father) once, who advised subcutaneous injections of the cacodylate of soda, which was steadily given for a fortnight, but with no more tangible results than any other drug.

As is usual in cases like these, the range of temperature gradually got higher, and she developed enlargement of the liver and spleen, scanty urine with albuminuria and dropsy, until at last she sunk in peaceful unconsciousness on November 2, after an illness lasting nearly eight months.

In this case also the blood was tested on three occasions, but with purely negative results: antistreptococcus serum was not used in this case.

CASE 3.—Mrs. H., aged 31. Thinks she strained her heart cycling up hills about three years ago, and since then has been more or less dyspnoic and liable to palpitation.

I first saw her on December 30, 1904, when she gave me the following history. Three months ago she had an acute attack of influenza, with a severe relapse a week later, since which she has never been free from fever of a very erratic type, probably hectic, but which she called "intermittent." She was then living thirty miles off in the wilds of Mid-Kent, and was treated by the village doctor, who apparently diagnosed it as an obstinately persistent case of influenza, and gave her large doses of quinine.

The fever was said to have ceased about three weeks ago, when she went to the seaside, but she did not regain her strength, and to-day has come to Chislehurst to be under my care, and, as she said, to be cured from the effects of being overdosed with quinine. I found her in bed with a pulse of 126, and temperature 102.5° , and sweating freely, though with no history of a rigor, so that I very much doubt whether her fever had ever quite subsided as was supposed.

She had a loud mitral systolic bruit with a considerably dilated heart, and very feeble contractions. There were no other physical signs to be found on examination, but she had entire loss of appetite, was very thirsty, and had a decided tendency to diarrhoea and colic. The urine had a specific gravity of 10, and showed a haze of albumen on boiling.

She was kept in bed, and carefully dieted, being fed very largely on milk and milky foods, and for medicines had ars. alb. and iod., ac. phos., bapt., and pyrogenium, but, as she was making no progress, and the arrangements for nursing at her lodgings were unsatisfactory, on January 19, I had her brought into a private ward of our Phillips' Memorial Hospital, Bromley.

The next day Dr. Watkins came over and took, from the left median basilic vein, enough blood to make an exhaustive examination, and on the 23rd he reported that he had found streptococci in moderate numbers, but no other infective organisms.

I at once wired for a supply of the antistreptococcus serum, and on the 24th injected 30 cc. of it just below the left mamma, and during the following eight days she had seven more injections of 10 cc. each; these gave her no pain, but neither did they do her any good, and

after they were stopped she was a good deal troubled with erythematous blotches all about her.

On the 26th she showed signs of slight capillary embolism in the right cerebral artery, being very drowsy, tremulous and hesitating in her speech, and in protruding the tongue; and subsequently to this she had several purpuric eruptions appear on different parts of the body. The urine varied in amount and in the proportion of albumen it contained, the greatest amount ever found being three-tenths of a column, and though she had some œdema of the feet and legs, this was never very great, and she at no time had ascites. Further medicines administered during her illness besides those already named were *echinacea*, *naja* 3c, infusion of *digitalis* when the urine was scanty, *cucodylate of soda* in $\frac{1}{4}$ th grain tablets, aconite, *spigelia* 1x, and strych. phos. $\frac{1}{30}$ n, but nothing really checked the steady downward progress of the complaint, and after being semi-conscious for two days, and having some slight attacks of a convulsive nature, she died on February 25, i.e., nearly two months after I had first seen her, and five months after the onset of her influenza.

In this case also I had the advantage of Dr. Moit's advice and co-operation, and he fully confirmed my diagnosis, and was very hopeless of the issue from the first.

There has been a certain generic likeness between these three cases, but my next case belongs to a different class entirely, being fondroyant in its course and coming on during the progress of an acute illness.

CASE 4.—Mrs. B., aged 70, an old patient of mine, and whom I had seen safely through several attacks of bronchitis and liver disturbance, was short, fat, emphysematous, and with a somewhat feeble and probably fatty heart, though it had never showed any organic defect.

Her husband died of acute pneumonia on December 26, 1901, after an illness of only nine days, during which she had nursed him assiduously, and systematically neglected herself. On the next day she entirely collapsed and stayed in bed, had a low pulse and temperature, and could hardly take any food, but had no shivering of any sort, and I, on that day, thought it was merely the reaction after her strenuous self-restraint and over-work coupled with grief. But on the 28th I found her feverish and with rapid respiration, and suspected at once that she was infected by her husband's pneumococci, and gave her acon. and phos., and on the 29th I found definite evidence of acute lobar pneumonia on the lower half of the right side,

which ran a severe but normal course, and by January 10 she had lost all fever, the lung was clearing up, and she appeared in a fair way to make a good recovery. She, however, did not pick up her strength, and gave on the impression that she did not *wish* to get better, though she was very calm and cheerful to her nurses and children.

On the 17th, having tried to sit out of bed a short time, she had a slight rigor, and got very blue and faint, and her temperature soon rose to 103°, and on my next visit I found her heart very disturbed, being irregular and easily excited, while there was a rough first sound at the apex which I had never heard before. This increased gradually and after a few days was a very pronounced loud mitral systolic bruit. The temperature now assumed a true hectic type, and she had several slight rigors followed by a very high temperature, and ended in sweating freely. On January 23 (having had one of these rigors the day before) I found a fresh patch of limited consolidation in the left base, which I have no doubt was caused by an infarction, and which caused no cough nor any respiratory difficulty. She began now to suffer from nausea, with a thickly furred, dry tongue, and diarrhœa, with pale watery and slimy stools, and a general condition of a typhoid character (without any indication of its being typhoid), and so gradually sank, till after being unconscious for over twelve hours, she died on February 1. The medicines given during this last fortnight were ars. alb. and iod., phos., strôph., pyrogenium, baptisia, lach. and sulph., while oxygen inhalations were used to meet emergencies, as well as occasional doses of brandy.

In none of these cases was I able, unfortunately, to get leave to make a *post-mortem* examination, so that, to this extent, their histories are incomplete, but I do not think there can be any doubt as to the correctness of the diagnosis.

In reviewing these cases, one sees at once that in all of them the heart had been previously defective, diseased, or weakened in some way, thus rendering them liable to become the seat of an infective invasion. The last case was a typical one of the so-called typhoid or pyæmic variety, and ran the usual rapid course so constantly associated with this form of the complaint, and there can be little doubt the infective germ here was the pneumococcus.

The first three cases, however, are somewhat peculiar in owing their origin, so far as can be ascertained, to the infection of influenza, a source rarely referred to in text-books even of recent date, but that the poison of influenza is in many, if not in all cases, a truly septic

one, besides having a marked tendency to weaken the myocardium, we have all of us had only too much experience to entertain the slightest doubt, and from what I have seen in these cases, I fancy that if the serum treatment is to be of any use, not only should it be given quite early in the case, but also—as I think Dr. Moir has already suggested—that the special serum should be used which is antitoxic to the most probable origin of the case. As the toxin of influenza, let alone its antitoxin, is still to seek, this method of treatment is not yet available for cases owing their origin to the above-mentioned cause.

Pyrogenium, which is by some considered a true homœopathic specific for all septic fevers, and has been lauded in this room as all powerful against influenza, did not appear to touch my cases at all, neither did the serpent venoms nor the latest American antiseptic remedy, echinacea.

It was quite remarkable, however, that in all these cases the patients expressed themselves as feeling most benefit from arsen, and especially from its iodide given in the 2x or 3x strength, which we have so often found the most satisfactory restorative to enfeebled heart muscles. We could also, until quite late in the course of these cases, confidently rely on the efficacy of our drugs to relieve intercurrent symptoms, such as *digitalis* in anuria, *chelidonium* in liver pain and nausea, *bryonia* for cough or constipation, and so forth, thus indicating that the responsive power of the patient was still active and that it was only needed to find the true similitum to the disease to give a very fair chance of saving the patient. So far as I can see we have no such drug as yet, for, though aconite, arsen. and the serpent poisons each cover a fair proportion of the symptoms we have to combat, in none of them does the history of their proving complete the picture sufficiently accurately to form a satisfactory homœopathic specific. Another encouraging feature of these cases is the fact that, in both those of the first series which had been from the outset under homœopathic treatment, the course of the illness was considerably longer than such cases usually run, the first case living seven, and the second eight, months after the beginning of the septic symptoms.

I am therefore quite inclined to expect that before long we may capture this hitherto almost impregnable citadel, and I am not without hope that some valuable suggestions for adding to our effective weapons of attack will be made here to-night.—*The Journal of the British Homœopathic Society*. April, 1906.

CRATEGUS : ACUTE CARDIAC INSUFFICIENCY.

Mrs. K., act 72, had had two and a half years ago, a light apoplectic stroke, the sequelæ of which had almost disappeared. She had suffered for 20 years from a grave asthma, which after the breaking out of an eczema on head and body, had markedly improved so that the general health was comparatively good. The eruption, moist and rhagadic, occasionally annoyed her; sometimes a bronchial catarrh would develop, but without serious complication. In the left groin, there was now and then, a deep-seated pain and the urine during the last 10 years had been occasionally bloody, with always a trace of albumin. Oct. 23, the patient had vomited, felt very miserable, with cold sweat on forehead and body, dyspnoic, had to lie with head high, cyanotic appearance, rales with slight expectoration, small quantity of sedimented urine, no appetite, no thirst. The pulse was extremely irregular and a loud blowing systolic murmur was heard all over the cardiac region. The tincture of crategus, three drops every half hour, was prescribed, with immediate amelioration loosening up of the bronchial mucus, more abundant urine and some sleep. On the afternoon of the 26th, the heart suddenly became regular, the murmur vanished, and the general condition much improved. Crategus was continued as before for a day; then t. i. d., which is the present prescription. In the urine, the albumin had become a mere trace. Dr. Schlegel — *The North American Journal of Homoeopathy*, May, 1906.

A CASE OF TETANUS

By E. A. P. HARDY, M. D., Toronto, Ontario.

Through the kindness of Dr. L. Hamilton Evans, I was permitted to see and follow the course of this case of tetanus.

Mr. M., aged 60 years, on October 6th, 1905, lacerated his right hand with a rusty nail and applied a poultice of clay mixed with saliva.

Nine days afterward a stiffness of the right hand and arm was noticed, which gradually increased and extended to the jaws so that by the 21st a pipe stem only could be inserted between his teeth with the greatest difficulty. General symptoms quickly followed and the classic signs of tetanus were evident; trismus, risus sardonicus, opisthotonos, orthotonus and emprosthotonos, which followed one another at irregular intervals.

Temperature was slightly elevated for one day, otherwise it was normal.

Improvement began in the left leg which was the last part to be affected, and general improvement soon followed, patient leaving the hospital about three weeks from the date of his admission.

Hypericum 200 was given as the first prescription, and repeated as symptoms called for it. No local or serum treatment was used.

Another case was treated at the same time in the Hospital under allopathic treatment. Ninety dollars worth of serum was used, and carbolic injections around the site of the wound with consequent gangrene and sloughing of part of the hand, and a long siege of nearly three months with imperfect recovery, but not a cure.

Which is the easier and quicker method? *Medical Advance*, May, 1906

STRANGULATION OF THE BOWEL.

BY PAUL G. ROWE, M. D., Lake Geneva, Wis.

Mr. C. N. S., age 55. Has hernia left side.

Present trouble began two days ago with tenderness in the left inguinal region. The hernia, which had descended and was pinched by the truss he wore, was replaced, but the tenderness increased and the abdomen became distended.

Rumbling and gurgling in the bowels, audible in the next room.

Tearing and twisting pains. < by pressure, < during movement of gas.

• Loud belching.

Thirst for small quantities of water.

Vomiting of fecal matter every few moments.

No bowel movement for three days. •

Patient chilly. •

General aggravation at midnight and from 4 to 8 P. M. Jan. 8th, 1906. Lycopodium 30th, three powders, one hour apart

Jan 9th. Has not vomited since taking the first powder.

Bowels move freely and often.

Pain very slight. •

Jan. 10th. Local tenderness only; other symptoms gone.

Jan. 11th. Tenderness all gone. Case discharged.—*Medical Advance*, May, 1906.

Gleanings from Contemporary Literature.

INSECTS AS CARRIERS OF DISEASE.

THE last few years are marked in the annals of medicine by a great increase in our knowledge of certain parasitic diseases, and above all, in our knowledge of the agency by which the parasites causing the diseases are conveyed.

Chief among these agencies, in carrying the disease-causing organisms from infected to uninfected animals, are insects, and, among the insects, above all, flies. The common house-fly (*Musca domestica*) can carry about with it the bacillus of anthrax. Flies, ants, and other even more objectionable insects are not only capable of disseminating the plague bacillus from man to man, and possibly from rat to man, but they themselves fall victims to the disease, and perish in great numbers. They are active agents in the spread of cholera, and the history of the Boer war definitely shows that flies play a large part in carrying the bacilli of enteric fever from sources of infection to the food of man, thus spreading the disease.

The diseases already mentioned are caused by bacteria. But flies also play a part in the conveyance of a large number of organisms which are not bacteria, but which, nevertheless, cause disease.

In considering the part played by flies in disseminating disease not caused by bacteria, we can neglect all but a very few families, those flies which suck blood having alone any interest in this connection.

From the point of view of the physician, by far the most important of these families is the Culicidae, with more than 300 described species and five sub-families, of which two, the Culicina and the Anophelina, interest us in relation to disease. The gnats or mosquitoes are among the most graceful and most beautiful insects that we know: but they have been judged by their works and undoubtedly are unpopular, and we shall see this unpopularity is well deserved. Gnats belong both to the genus *Culex* and to genus *Anopheles*. The genus *Culex*, from which the order takes its name, includes not only our commonest gnat, often seen in swarms on summer evenings, but some 130 other species. Members of this genus convey from man to man the *Filaria nocturna*, one of the causes of the widely-spread disease filariasis. In patients suffering from this disease, minute embryonic round-worms swarm in the blood-vessels of the skin during the hours of darkness. Between six and seven in the evening they begin to appear in the superficial blood-vessels and they increase in number until midnight, when they may occur in such numbers that five or six hundred may be counted in a single drop of blood. After midnight, the swarms begin to lessen, and, by breakfast time, about eight or nine in the morning, except for a few strayed revelers, they have disappeared from the superficial circulations and are hidden away in the larger blood-vessels and in the lungs.

In spite of their incredible number (some authorities place it at thirty to forty millions in one man), these minute larval organisms, shaped something like a needle pointed at each end, seem to cause little harm. It might be thought that they would traverse the walls of the blood-vessels, and cause trouble in the surrounding tissues; but this is prevented by a curious device. It is well known that, like insects, round-worms from time to time cast their skins, and the young larvæ in the blood cast theirs, but do not escape from the inside of this winding-sheet; and thus, though they actively wriggle and coil and uncoil their bodies, their progress is as small, and their struggles as little effective, as are those of a man in a straight-waistcoat.

One reason of the normal appearance of the creatures in the blood at night is undoubtedly connected with the habit of its second host, the gnat or mosquito. Two species are accused of carrying the *Filaria* from man to man—*Culex fatigans* and *Anopheles nigerrimus*. Sucked up with the blood, the round-worms pass into the stomach of the insect. Here they appear to become violently excited, and rush from one end to the other of their enveloping sheath, until they succeed in breaking through it. When free, they pierce the walls of the stomach of the mosquito, and come to rest in the great thoracic muscles. Here the *Filarias* rest for some two or three weeks, growing considerably and developing a mouth and an alimentary canal; thence, when they are sufficiently developed, they make their way to the proboscis of the mosquito. Here they lie in couples. Exactly how they effect their exit from the mosquito and their entrance into man has not yet been accurately observed; but presumably it is during the process of biting. Once inside man, they work their way to the lymphatics, and very soon the female begins to pour into the lymph a stream of young embryos, which reach the blood-vessels through the thoracic duct. It is, however, the adults which are the source of all the trouble. They are of considerable size, three or four inches in length; and their presence, by blocking the channels of the lymphatics, gives rise to a wide range of disease, of which elephantiasis is the most pronounced form.

We now pass to the second of the diseases carried by gnats, that of malaria.

The parasite which causes malaria is a much more lowly organized animal than the *Filaria*. It is named *Plasmodium*, and it too is conveyed by an insect, and, so far as we know, by one genus of mosquito only, the *Anopheles*. Hence from the point of view of malaria it is important to know whether a district is infected with *Culex* or *Anopheles*. The former is rather humpbacked and keeps its body parallel with the surface it is biting, and its larva hangs at an angle below the surface of the water by means of a respiratory tube. *Anopheles*, on the other hand, carries its body at a sharp angle with the surface upon which it rests, and its larva lies flat below the surface-film and parallel with it. The malarial parasite lives in the blood-cells of man, but at a certain period

it breaks up into spores which escape into the fluid of the blood, and it is at this moment that the sufferer feels the access of fever. Their presence and growth within the blood-cells result in the destruction of the latter, a very serious thing to the patient if the organisms be at all numerous. If the spores be sucked up by an Anopheles, they undergo a complex change, and ultimately reproduce an incredible number of minute spores or protozoites, each capable of infecting man again if it can but win entrance into his body.

In normal circumstances, for each Filaria larva which enters a mosquito one Filaria issues forth, longer, it is true, and more highly developed, but not much changed. The malaria parasite undergoes, in its passage through the body of the Anopheles, many and varied phases of its life-history. As the Frenchman said of the pork, which goes into one end of the machine in the Chicago meat-factories as live pig, and comes out at the other in the form of sausages, "*Il est doublement change en route*"

Whoever has watched under a lens the process of "biting," as carried on by a mosquito, must have observed the fleshy proboscis (labium) terminating in a couple of lobes. The labium is grooved like a gutter, and in the groove lie five piercing stylets, and a second groove or labrum. It is along this labium that the blood is sucked. Between the paired lobes of the labium, and guided by them (as a billiard cue may be guided by two fingers), a bundle of five extremely fine stylets sinks slowly through the epidermis, cutting into the skin as easily as a knife into a soft cheese. Four of these stylets are toothed, but the single median one is shaped like a two-edged sword. Along its center, where it is thickest, runs an extremely minute groove, only visible under a high power of the microscope. Down this groove flows the saliva, charged with the spores or germs of the malaria-causing parasite. Through this minute groove has flowed the fluid which, it is no exaggeration to say, has changed the face of continents and profoundly affected the fate of nations.

It is an interesting fact that, among the Culicidae, it is the female alone that bites, and she is undoubtedly greedy. If undisturbed, she simply gorges herself until every joint of her chitinous armor is stretched to the cracking point. She never ceases sucking. The great majority of individuals, however can never, taste blood, and subsist mainly on vegetable juices.

Anopheles is often conveyed great distances by the wind, or in railway trains or ships; but of itself it does not fly far; about five or six hundred yards—some authorities place it much lower—is its limit. Both Anopheles and Culex lay their eggs, as is well known, in standing water, and here three out of the four stages in their life-history—the egg, the larva, and the pupa—are passed through. The larva and the pupa hang on to the surface-film of the water by means of certain suspensory hairs, and by their breathing apparatus. Anything which prevents the breathing tubes reaching the air insures the death of the larva and pupa. Hence the use of paraffin on the pools or breeding places. It, or any other oily fluid,

spreads as a thin layer over the surface of the pools and puddles, and clogs the respiratory pores, and the larvæ or pupæ soon die of suffocation.

Thus a considerable degree of success has attended the efforts of the sanitary authorities, largely at the instigation of Major Ross, all over the world, to diminish the mosquito plague. It is, of course, equally important to try and destroy the parasite in man by means of quinine. This is, however, a matter of very great difficulty. In Africa and in the East nearly all native children are infected with malaria, though they suffer little, and gradually acquire a high degree of immunity. Still, they are always a source of infection; and Europeans living in malarious districts should always place their dwellings to the windward of the native settlements.

Another little gnat, *Stegomyia fasciata*, closely allied to *Culex*, with which, until recently, it was placed, is the cause of the spread of that most fatal of epidemic diseases, the yellow fever. Like the *Culex*, but unlike the *Anopheles*, *Stegomyia* has a humpbacked outline, and its larva has a long respiratory tube at an angle to its body, from which it hangs suspended from the surface-film of its watery home. It is a very widely distributed creature; it girdles the earth between the tropics, and is said to live well on shipboard. It breeds in almost any standing fresh water, provided it be not brackish. The female is said to be most active during the warmer hours of the day, from noon until three or so, and in some of the West Indies it is known as the "day-mosquito."

The organism which causes yellow fever has yet to be found. It seems that it is not a bacterium, and that it lives in the blood of man. It evidently passes through a definite series of changes in the mosquito, for freshly infected mosquitoes do not at once convey the disease. After biting an infected person it takes twelve days for the unknown organism to develop in the *Stegomyia*, before it is ready for a change of host. The mosquitoes are then capable of inoculating man with the disease for nearly two months. The period during which a man may infect the mosquito, should it bite him, is far shorter, and extends only over the first three days of the illness.

Very careful search has hitherto failed to reveal the presence of the parasite of yellow fever. By its works alone can it be judged. It seems that, like the germ of rinderpest and of foot-and-mouth disease, it is ultra-microscopic; and our highest lenses fail to resolve it.

King Solomon sent to Tarshish for gold and silver, ivory, and apes and peacocks, and, at the present day, people mostly go to Africa for gold, diamonds, ivory, and game. These are the baits that draw them in. Of the great obstacles however, which have for generations succeeded in keeping that great continent, except at the fringes, comparatively free from immigrants, there, and these by no means the least important, are insignificant members of the order Diptera. We have considered the case of *Culex* and *Anopheles*; the third fly we have now to do with is

the tsetse fly (*Glossina*), which communicates fatal diseases to man and to cattle and domesticated animals of all kinds.

The members of the genus *Glossina* are unattractive insects, a little larger than our common house-fly, with a sober brownish or brownish-gray coloration. When at rest the two wings are completely superimposed, like the blades of a shut pair of scissors; and this feature readily serves to distinguish the genus from that of all other blood-sucking flies, and is of great use in discriminating between the tsetse and the somewhat nearly allied *Stomoxya* and *Hæmatopota*.

The tsetse flies rapidly and directly to the object it seeks, and must have a keen sense of smell, or sight, or both, making straight for its prey, and being most persistent in its attacks. The buzzing which it produces when flying is peculiar, and easily recognized again when once heard. After feeding, the fly emits a higher note, a fact recalling the observation of Dr. Nuttall and the present writer, on the note of *Anopheles*, in which animal we observed that "the larger the meal the higher the note." The tsetse does not settle lightly and imperceptibly on the sufferer as the *Culicidæ* do, nor does it alight slowly and circumspectly after the manner of the horse-flies, but it comes down with a bump, square on its legs. Like the mosquito, the tsetse is greedy, and sucks voraciously. The abdomen becomes almost spherical and of a crimson red. Unlike so many of the blood-sucking *Diptera*, in which the habit is confined to the females, both sexes of *Glossina* attack warm-blooded creatures.

The fly always seems to choose a very inaccessible portion of the body to operate on, between the shoulders in man, or on the back and belly in cattle and horses, even inside the nostrils in the latter, or on the forehead in dogs. According to Lieut-Col. D. Bruce, R.A.M.C., to whom we owe so much of our knowledge of this fly and its evil work, the female does not lay eggs, but is viviparous, and produces a large, active, yellow larva, which immediately crawls away to some secluded crevice, and straightway turns into a hard, black pupa, from which the imago emerges in some six weeks. Thus two stages, the egg and the larva both peculiarly liable to destruction, are practically skipped in the tsetse, at any rate in some species.

The genera of the *Culicidæ* which we have considered are found practically all over the world, but the genus *Glossina* is fortunately confined to Africa. From the admirable map of the geographical distribution of the fly compiled by Mr. Austen, we gather that its northern limit corresponds with a line drawn from the Gambia, through Lake Chad to Somaliland, somewhere about the thirteenth parallel of north latitude. Its southern limit is about on a level with the northern limit of Zululand. The tsetse, of course, is not found everywhere within this area; and, though it has probably escaped observation in many districts, it seems clear that it is very sporadically distributed.

Even where the tsetse is found, it is not uniformly distributed, but occurs in certain localities only. These form the much dreaded "fly-belts." The normal prey of the fly is undoubtedly the big Game of Africa. But

they are not the only factor in its distribution. The nature of the land also plays a part. There are the usual discrepancies in the accounts of travellers, especially of African travellers, as to the exact localities the *Glossina* affects; but most writers agree that the tsetse is not found in the open veldt. It must have cover. Warm, moist, steamy hollows, containing water and clothed with forest growth, are the haunts chosen.

The tsetse fly belongs to the family Muscidae the true flies, a very large family, which also includes our housefly, blue-bottle fly, etc. These flies, unlike *Anopheles* and *Culex*, are day-flies, and begin to disappear at or about sunset.

The practical disappearance as the temperature drops has enabled the South African traveller to traverse the fly-belts with impunity during the cooler hours of the night. At nightfall the tsetse seems to retire to rest among the shrubs and undergrowth; but, if the weather be warm, it may sit up late; and some experienced travellers refrain from entering a fly-belt especially on a summer's night, until the temperature has considerably fallen.

The sickness and death of the cattle bitten by the tsetse were formerly attributed to some specific poison secreted by the fly, and injected during the process of biting. It is now, largely owing to the researches of Col. Bruce, known to be due to the inoculation of the beasts with a minute parasitic organism conveyed from host to host by the fly. The disease is known as "nagana," and the organism that causes it is a species of *Trypanosoma*, a flagellate protozoon or unicellular organism, which moves by means of the lashing of a minute, whip-like process. Since Bruce's researches, a number of *Trypanosomas* have been found causing disease in various parts of the world; thus *T. evansi* causes the surra disease of cattle, horses, and camels in India; *T. equinum* produces the "mal de caaderas" of the horse ranches of South America; and *T. equiperdum* is responsible for the North African disease called by the French the dourine; *T. theileri* causes the gall-sickness, and there are others. The particular species of *Trypanosoma* which causes nagana is *Trypanosoma brucei*, and it does not attack man; goats and donkeys seem also immune; but, with these exceptions, all domesticated animals suffer, and in a great percentage of cases the disease terminates in death. Just as the native children in Africa form the source of the supply of the malarial parasite without appearing to suffer much, so do the big game of the country abound in *Trypanosoma* without appearing to be any the worse. They are in Laukester's phrase "tolerant" of the parasite, and a harmony between them and the parasite has been established, so both live together without hurting one another. It is from the big game that the disease has spread. In their bodies the harmful effect of the parasite has, through countless generations, become attenuated, but it leaps into full activity again as soon as the *Trypanosoma* wins its way into the body of any introduced cattle, horse, or domesticated animal.

The report of Col. Bruce, which has just been issued, shows that the sleeping sickness which devastates Central Africa, from the west coast to the east, is also conveyed by a species of tsetse fly. Writing more than a hundred years ago of Sierra Leone, Winterbottom mentions the disease. "The Africans," he says, "are very subject to a species of lethargy which they are very much afraid, of in every instance." Early last century it was recorded in Brazil and the West Indies; and Lankester has suggested that the deaths which our slave-owning ancestors used to attribute to a severe form of homesickness, or even to a broken heart, were in reality caused by sleeping sickness. In one year the deaths in the region of Busoga reached a total of 20,000; and it is calculated that although the disease was only noticed in Uganda for the first time in 1901, by the middle of 1904, 100,000 people had been killed by it. The disease is caused by the presence of a second species of *Trypanosoma* in the blood and in the cerebro-spinal fluid. The existence of this parasite has now been proved in all the cases recently investigated. Apparently the *Trypanosoma* can live in the blood without doing much harm, and only when it reaches the cerebro-spinal canal does it set up the sleeping-sickness. It is also found in great numbers in the lymphatic glands, especially those of the neck, which in patients infected by the parasite are usually swollen and tender. From the similarity of the parasite to that causing the cattle disease of South Africa, the idea at once arose that the *Trypanosoma* was conveyed from man to man by a biting insect. Along the lake shores a species of tsetse (*G. palpalis*) abounds; and it was noticed that if the fly, having fed off a sleeping-sickness patient, bit a monkey, the monkey became infected. Further, flies which were captured in a sleeping-sickness district were also capable of conveying the disease to healthy monkeys. The proof that sleeping-sickness is due to a *Trypanosoma* known as *T. gambiense* present in the cerebro-spinal fluid of the patient, due to the brilliant research of Col. Bruce and his colleagues, Capt. Grieg and Dr. Nabarro, and it is conveyed from man to man by *Glossina palpalis* seems now complete.

Finally, we come to a last class of disease which is of the utmost interest to the agriculturist and settler, and yet at present is but little understood. These diseases are caused by various species of a protozoon named *Piroplasma*, and the diseases may collectively be spoken of as piroplasmiasis. When they are present in cattle they are spoken of in various parts of the world as Texas fever, tick-fever, blackwater and redwater. Heartwater in sheep is a form of piroplasmiasis. Horses also suffer, and the malignant jaundice or bilious fever which makes it impossible to keep dogs in certain parts of this country is also caused by a *Piroplasma*. Finally, under the name of Rocky Mountain fever, spotted or tick-fever, the disease attacks man throughout the west half of the United States.

The organisms which cause the disease live for the most part in the red blood corpuscles, but they are sometimes to be found in the plasma or liquid of the blood. Unfortunately we know comparatively little about

the life-history of the Piroplasma or of the various stages it passes through, but we do know how it is transmitted from animal to animal and from man to man.

We have seen that the carrier "go-between" in the case of the malaria is the mosquito, and in the case of the sleeping sickness is the tsetse fly. Piroplasma, however, is not conveyed from host to host by any insect, but by mites or ticks, members of the large group of Acarines, which include besides the mites, the spiders, scorpions, harvestmen, and many others.

The ticks differ from the insect bearers of disease, inasmuch as the tick that attacks an ox or a dog does not itself convey the disease, but it lays eggs—for I regret to say here, as with the Anopheles, it is the female only that bites—and from these eggs arises the generation which is infective, and which is capable of spreading the disease. The tick which conveys the Piroplasma from dog to dog is called *Hamophysalis leachi*. The brilliant researches of Mr. Lounsbury have shown that even the young are not immediately capable of giving rise to the disease. The female tick gorges herself with blood, drops to the ground, and begins laying eggs. From these eggs small six-legged larvæ emerge. These larvæ, if they get a chance, attach themselves to a dog, gorge themselves, and after a couple of days fall off. If their mother was infected they nevertheless do not convey the parasite. After lying for a time upon the ground the larval tick casts its skin and becomes a nymph, a stage roughly corresponding with chrysalis of a butterfly. This nymph, if it has luck, again attaches itself to the dog and has a meal, but it also fails to infect the dog. After a varying time it also drops to the ground, undergoes a metamorphosis, and gives rise to the eight-legged adult tick. Here at last we reach the infective stage; the adult tick is alone capable of giving the disease to the animal upon which she feeds, and then only when she is descended from a tick which has bitten an infested host. Think what a life-history this parasite has! Living in the blood-corpuscles of a dog, sucked up by an adult tick, passed through her body until it reaches an egg, laid with that egg, being present while the egg segments and slowly develops into the larva; living quiescent during the larval stage and the nymph stage, surviving the metamorphosis, and only leaping into activity when the adult stage is reached. This most remarkable story probably indicates that the Piroplasma undergoes a series of changes comparable to those of the malaria organism when it is inside the mosquito; what these stages are we do not at present know, but Dr. Nuttall and Mr. Smedley at Cambridge, and many other observers elsewhere, are at work on the problem, and soon we shall have more light.

With regard to bovine piroplasmosis, Koch and others have distinguished redwater fever, which is conveyed by *Rhipicephalus annulatus*, and in Europe probably by *Ixodes ricinus* from the Rhodesian fever which is conveyed by *Rhipicephalus appendiculatus*, and I regret to say by a species dedicated to myself, *Rhipicephalus shipleyi*.

The heartwater disease of sheep and goats is similarly conveyed by *Amblyomma hebraeum*, the Bout tick, and many farmers accuse *Iodes pilosus* of causing the well-known paralysis from which sheep suffer in the early autumn ; and there are many others, diseases such as the chicken disease of Brazil, which is so fatal to poultry yards, and which is conveyed by the *Argas persicus*.—*Scientific American Supplement*, February 10, 1906.

Acknowledgments.

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বটিকুঞ্চ পাল এণ্ড কোং,

৪৫ হোমিওপ্যাথিক হল, ১২ নং বনফিল্ডস্ লেন, ---কলিকাতা।

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July 1906.

[No. 7.

THE DRUG-PROVING SOCIETY.

The drug proving of the O. O. and L. Society is full of interest as the society is engaged on re-proving of our drugs on scientific basis. The business is conducted under the guidance of Dr. HOWARD P. BELLAWS. We have received four pamphlets containing the provings of Belladonna. The first deals with the headache of Belladonna. Out of the fifty-three provers, thirty-one had frontal headache. In one prover the characteristic symptom was "the peculiar boring headache in the left temporo-frontal region as if pressed in with the knuckles."

Dr. BELLAWS remarks: "We find pressive pains very frequent in connection with Belladonna, but in neither the older nor the present provings do we find a symptom precisely similar to the above. It reminds us very strongly, however, and may be considered corroborative, of the old symptom of Hahnemann—"Headache as if a stone were pressing the forehead."

The headache of Belladonna assumed many characters. They were frontal, without specification, general, vertical, occipital, parietal, supraorbital, or temporal, worse on the right side, (left in a few cases) extending from before backwards, or from back forwards, either slight or severe in intensity, and dull, continuous, sharp, throbbing, or bursting in character, and occurring oftenest in the afternoon, on waking or in the evening

with feeling of fulness, or tension and accompanied by flushed face or pains and aching in or about the eyes. Aggravation was chiefly by motion of various kinds, on lying down, and in afternoon or towards evening, and amelioration by open air, cold air, resting, keeping eyes closed, pressure and after eating.

The second deals with the action of Belladonna upon the ear. The diseases in which Belladonna is suitable are as follows: Aural neuralgia in all its forms, local congestions, irritation and inflammatory conditions of the external canal, inflammatory conditions of the Eustachian tubes extending from the throat, acute myringitis, acute inflammation of the middle ear, mastoid involvement, inter-tympanic muscular contractions, tinnitus aurium and hyperaesthesia acoustica.

The third supplies us with the urinary symptoms of Belladonna. They are: Desire for urination greatly increased, frequency increased, difficulty in urinating from inertia of bladder, great straining, slow with interrupted stream, small size of the stream, force of stream diminished, pain in bladder, as if urethra constricted, tickling in urethra, urine hot, burning in prostatic region and bladder, burning at the meatus, burning in urethra, before, after, and during urination. Quantity of urine variable, specific gravity changeable, offensive odour in some cases, colour variable, reaction generally unchanged, solids generally increased, phosphates generally increased, sulphates generally increased, chlorides variable, urea variable, uric acid variable, indican generally normal, bilirubin none, albumin generally none, sugar none, and mucus increased.

The fourth pamphlet deals with the action of Belladonna upon the sides. We quote the important opinion of Dr. BELLIOWS as follows: "Our first inspection of these results... produces the impression that the reputation of Belladonna for right-sided action is not supported. Upon closer analysis, however, and particularly after studying we see several limited areas where the action upon the right side predominates but, with the exception of the symptoms of the head, none seem of sufficient importance to warrant the reputation for

such action which the drug has acquired. There is a preference for the right side of the throat revealed upon close study and this would perhaps count for more than it should in establishing the idea of right-sided action, because the throat is so easily inspected and variations in the appearance of its two sides so quickly noted. Following through the system at large we discover an apparent preference of the drug for the right ovary, the right iliac region and the right groin, but this is not sufficiently prominent or well marked to have much influence upon the general reputation of the drug for one-sided action, and is more than offset by predominant action upon the left side of the body in other organs and regions. Particularly is the left-sided action prominent in the lower limbs where there is a very striking excess of pains upon the left side, these pains being not so much muscular as neuralgic in character. We come back to the symptoms of the head, therefore, as being those upon which this long-established reputation of the drug for right handed action must chiefly rest. Here we are upon positive ground. The headache of belladonna is strictly and characteristically a right-sided headache. This was experienced by eighteen different provers upon thirteen-days. These headaches of one-sided type were more of them occipital, they were predominantly frontal. Associated with them were pains in the outer head, also strikingly in excess upon the right side. Here is a group of symptoms so characteristically one-sided that they would go far in themselves to impress the mind with the idea that the drug worked most potently upon the right, but no adequate foundation seems apparent in other portions of the system for this reputation. Whether there is any direct connection trophic or otherwise, between the excess of pain, of nervous character, in the left leg, and the energy of the drug's action upon the right side of the brain, is a question of possible interest to the neurologist.

In conclusion, it may be deduced from this latest and most precise proving of belladonna that the reputation of this drug for predominant action upon the right side of the body in general

is chiefly, and perhaps almost wholly, due to its predominant action upon the right cerebral hemisphere."

It is observed that the test drug proving of the O. O. and L. society has achieved great success in the undertaking of the reproving of Belladonna. The fact remains unquestionable that thoroughness and precision of observation has given a definite value to our former provings. The scientific methods adopted in urinary provings of the drug has given a wide scope of application to the drug. Our definite opinion is that success has been ensured. Now, it would be the duty of our practitioners to utilise the experience of the O. O. and L. society by sending money at their earliest convenience. The few shillings spent for the purpose are worth more than the knowledge they will get by the exchange. A communication to Dr. Howard P. Bellows of Boston, Massachusetts, U. S. America, will be cordially welcomed as a sign of appreciation of the works of self-abnegation of the society, whose members do not wish to charge more than defraying the actual expense. A large number of subscribers will lessen the actual cost. We are given to understand that the price will not be more than twenty shillings for the volume.

It has become desirable that a similar society should be established in Calcutta to bestow an important character to drug proving on Indian constitution. We have no doubt that the result will be significant.

COMMUNICATION.

June 23rd, 1906.

Dear Doctor:—

The manuscript for the book upon the test drug proving of the O. O. & L. Society is ready for the printer. It will make a large octavo volume of about seven hundred pages, similar in size to one of the volumes of Hering's "Guiding Symptoms". It will contain complete narratives of the fifty-three individual provings which constitute the body of the work, together with a thorough digest and presentation of the results obtained in synoptic and schematic forms and in different degrees of condensation. It will be illustrated with sphygmographic tracings and with photomicrographs of changes in-

duced by the drug in animal tissues. *It will be published by subscription, and the price will be determined by the number of subscribers. It is designed to furnish the book to each subscriber as nearly as possible at cost price, and, by vote of the O. O. & L. Society, should any profit chance to accrue from the sale of the work it will be devoted to the cause of drug-proving.*

Your subscription is solicited upon the enclosed postal and its prompt return is most essential as it is desired to send the book to press immediately.

Fraternally yours,

HOWARD P. BELLows,

*General Director of the Proving, for the
O. O. & L. Society.*

The Test Drug-Proving of the O. O. & L. Society.

For the information of any who may not be acquainted with the nature and scope of this work it will be stated that it is a re-proving of Belladonna, under scientific conditions and by laboratory methods, which has been carried out under the auspices of the American Homeopathic Ophthalmological, Otological and Laryngological Society, with the endorsement and co-operation of the American Institute of Homeopathy and various states and local societies, and by the aid of proving-boards of twelve or more physicians each, mostly specialist, which were organized for this purpose in eleven of our largest cities.

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COMMENDATION.

By J. B. GREGG CUSTIS, M.D., Washington, D.C.,
Ex-President of the American Institute of Homœopathy.

JOHN P. SUTHERLAND, M.D., Boston, Mass.,
Ex-Pres. of the American Institute.

GEORGE ROYAL, M.D., Des Moines, Iowa,
Ex-Pres. of the Amer. Inst.

It has been my privilege to examine carefully the completed MSS. of the "Test Drug-Proving of the O. O. & L. Society", as prepared for publication by Prof. HOWARD P. BELLWS, and it is with unaffected pleasure I heartily commend the work to the favorable consideration of my professional colleagues. Not only are the day-books of the fifty-three persons who co-operated in the provings, with the special examiner's and director's comments, presented unabridged, with special comparisons and groupings of symptoms, and modalities, but the volume contains minute and painstaking analyses of the provings made upon quite new and original lines by the editor, which show profound thought and elaborate study, and which open up in the realms of drug pathogenesis paths heretofore untrod. The book will prove of practical value to the student of pure drug pathogenesis, to the general practitioner, to the specialist, and may well serve as a model to those workers whose field of investigations includes the proving of drugs.

JOHN P. SUTHERLAND, M.D.

After carefully examining the completed MSS. of the "Test Drug-Proving" of the O. O. & L. Society, I most heartily recommend it to all homœopaths, whether students, practitioners or teachers. The symptoms are carefully compared and wisely grouped. Better still, they are also presented in narrative form as recorded by the provers, so that one may see the order of their development and judge of their reliability. Best of all, the arrangement of the symptoms makes their therapeutic application comprehensive and easy. Prof. HOWARD P. BELLWS, the director and editor of this work, has placed us all under an obligation which we can only partly repay by subscribing for the book.

Des Moines, Iowa.

GEORGE ROYAL, M.D.

TREATMENT OF SCIATICA.

BY DR. PAUL CHIRON, M.D.

Aconit —Irritation ; inflammation of nerve ; pain burning, lancinating, benumbing as if the region is anaesthetic ; augments during night and by movement ; especially in recent cases.

Ammonium Mur —Sciatica grave and continued since long time, pain in the left side as if the tendons of the hip are very short ; limping on walking and sitting ; he complains of biting pain in the bone, slightly less when he walks and entirely removed when he is in bed ; sensation of contraction and true contraction of the leg ; pain pricking, tearing, ulcerative in the heel, diminishes after friction, increases at night in bed.

Angustura —Tormenting pain along the length of the sciatic nerve and in the posterior region of the thigh, forces the patient to walk lame ; painful stiffness of the muscles of the thigh makes the patient to walk lame ; when he extends the leg, sensation of pressure in the anterior muscles of the thigh.

Arnica.—After all kinds of exercise ; pain burning, stabbing, tearing ; sensation of part broken, and numbness in the affected limb. Constant change of position, as if all things upon which the leg is spread seem hard to him ; especially useful for the females in their confinement.

Arsenicum.—Typical regularity of pains, worse at night and intolerable toward midnight. Pains burning and tearing with great agitation, oblige the patient often to move his limbs to obtain relief, but the pains are augmented by the vigorous movement ; can not rest in bed on the diseased side ; great feebleness and tendency to rest in bed ; worse after cold applications, temporary relief from heat, after residence in a cold and humid place, or after sudden suppression of an eruption.

Belladonna.—Especially ischiatic, with pain in the joint of the hip during the night ; the patient often changes position ; sensibility to touch, the same with bed clothes, to the least shake and on hearing the foot steps of persons in the room ; worse at the least draught of air ; paroxysms about mid-day and rest up to midnight ; desire to sleep but can not do it ;

amelioration on leaving the leg hanging, by heat, after perspiration, and when he stands upright.

Bryonia.—Pain rather in the lumbar region on stretching the thigh, worse when he stands upright, by movement and late at night; is better when he lies down on the painful side; often relieved by cold water; atrophy and emaciation of the affected limb.

Calcarea Carb.—Sciatic pain caused by any work in water; pain is more severe when the legs are hanging and diminishes when the knees are elevated. The pain extends to the lower part of the limb and torments the patient constantly.

Chamomilla.—*Left side*. Shooting pain from the hip to the knee and from the ischial tuberosity to the sole of the feet; sensation of numbness in the affected part after movement; pain shooting, tearing, excruciating, becomes intolerable during night; worse at night and in bed, less on movement; excessive sensibility and irritability of the fibre; the patient is agitated as without his sense.

Colocynth.—*Ischiatic pain of the right side*. Acute pain, worse in the sacral region, obliges him to keep perfectly tranquil, for it is aggravated by each movement; prickling, piercing pain from the hip to the knee, or as a flash of lightning from the sacrum to the heel, worse in the evening and at night with thirst for cold water; pain comes abruptly, of constant character and becomes intolerable during its paroxysms; intense pain causes lameness and slight palsy, numbness after the pain; worse by touch, cold, movement, rage and indignation; better by perfect rest or external application of heat; tendency to contraction of the tendons.

Eupatorium Perf.—*Ischiatic pain of the left side*. Intense pain more on stretching the sciatic nerve; produces sensation of paralysis, especially after movement; neuralgia of the right shoulder, of the right knee, passing to the left side; neuralgic pain upward, and more often from the left side of the back to the hip; gnawing in the iliac bone, legs are feeble, fatigued, especially the left.

Gelsemium.—Obstinate sciatica; pain augmented by repose and particularly when he commences to walk. Burning pain increases at night, forcing him to rest in bed without walking; pain worse during the paroxysms, diminishes when he perspires; pain in the sole of the foot when he walks.

Gnaphalium.—Pain intense, excruciating, lancinating, piercing, burning, along the posterior part of the sciatic nerve (without use in crural neuralgia), following the large ramifications. Sensation of numbness at the seat of the pain, any exercise is very fatiguing; increases by rest in bed, movement, walking; diminishes on sitting in a chair; affects more the right side.

Ignatia.—Chronic, intermittent, ischiatic pain, less in summer, worse in winter; pain like the stroke of hammer as if the coxo-femoral articulation will be broken into pieces; shivering with thirst followed by heat, especially on the face, heat without thirst; pain intermittent, of acute character, and at first beating the whole of the three days, since it has become daily; the temperament of the patient is mild and melancholic.

Iris Versicolor.—Pain severe, burning, making lame, affects the posterior femoral muscles; severe along the sciatic nerve up to the foot; increased by moderate movement; severe burning pain in the right shoulder; sometimes complicated with gastralgia and colic.

Kali Bichr.—In males (Puls in females): sciatica of the *left leg*, diminishes after easy walking and flexion of the limb; increases after upright position, sitting or lying on bed, pain extends from the hip to knee; the pressure on the nerve causes an acute pain along the whole leg; erratic pains of many varieties; pains come swiftly and go in the same way; pain, acute, violent, causing shock in the hip, increases during hot weather. (*Ignatia* diminishes.)

Kali Phosph.—Sciatica, shooting pain in the back part of the thigh and knee; torpidity, rigidity; great agitation and exhaustion; paralytic shooting pain in the sole of the feet.

Luc. Can.—Rheumatic pain in the left hip and along the sciatic nerve; intolerable pain across the ^{super}sacral region,

extending along the sciatic nerve preventing sleep and repose; erratic rheumatism.

Lachesis.—Pain constantly changes place, sometimes in the head, sometimes in the teeth, at other times in the sciatic nerve: comes with nervousness, palpitation of heart, gust of heat, constipation. Intolerable itching and burning pain extending from the hip to foot, pain in the sciatic nerve (right); aggravation by light movement; suppressed skin diseases on the leg re-appear in profusion; pain diminishes when he is lying tranquilly in bed.

Iedum.—The pain extends up to the upper part of the foot; pinching and shooting in the articulation of the hip, descending along the posterior aspect of the thigh; pressure in the posterior region of the thigh with sensation of contraction of the muscle; the affected limb is more cold than the rest of the body; the pain is worse when it is in the heat of the bed; the left side is much more affected with feebleness and heaviness than the other side; pain accompanied by sweat of the feet and limbs; extreme sensibility of the sole of the feet, itching of the dorsal aspect of the foot and ankle joint; at night loss of vital heat.

Lycopodium.—In chronic cases; complete cessation of the burning and pricking pains; stiffness and feebleness of the affected limb; worse by repose and slightly relieved by movement, but the pain diminishes when the movement is prevented; pinching muscular pain; constipation; abdomen inflated with gas; high colour of the urine, muddy with red sediment and sandy; pain increases by pressure on the affected part, on sitting and lying on it, and intolerable when standing upright; he can not straighten the leg; pain coming on periodically, all the four days.

Mercurius.—Pain pouring out from the hip to knee; shooting pain along the whole of the thigh; suffering from painful feebleness, preventing walking; feels as if the flesh is turned upon the bone; sensation of internal heat, surface of the body being cold; worse by touch, movement in the evening and at night; better in open air and after the break of day.

Nux Vomica.—Shooting and tearing pain upwards relieved by hot water, with stiffness and contraction of the affected limb; great pain along the affected limb up to the foot; sensation of paralysis with coldness of the affected limb; better on lying on the painful side (*Bryonia* opposite), worse on fine morning and during stool; constipation.

Plumbum.—*Chronic sciatica with muscular atrophy*; continuous pain, constrictive and tearing, diminishes at night, by heat, movement or light pressure, diminishes by massage; hectic fever, dry cough, great exhaustion.

Ranunculus.—Sciatica especially in females, pain worse by movement, not relieved by lying position; pain worse during rain and tempest; burning and pricking pain radiating in the dorsal region of the spine.

Rhus Tox.—During the progress of the affection, especially when it is caused by exposure to humidity or by sprain in an effort; pain boring, burning, tearing with sensation of coldness and numbness; tingling, paralytic stiffness of the limb; increases during rest and when he commences to move; relief only for a short moment by movement; frequent paroxysms of cramps in the calves; worse in open air, better by dry heat.

Stillingia.—*Syphilitic sciatica of the left side*. Violent pain in the foot, heel, hip, leg, the left lumbar region, pain in the great toe, violent pain in the back, shooting in the thigh and leg, periostitis and nodosities of the tibia.

Sulphur.—Crural neuralgia; subacute sciatica due to some dyscrasia of the organs; pain at a point of the back, piercing and shooting when he rises from his seat; tensive pain in the articulation of the hip especially in the left; shooting in the limbs, accompanied by sensation of broken part; sensation of heaviness in the limb and numbness as if it is paralysed, increases when he walks; aggravation of the pain at night, by heat of the bed; more or less rigidity of the knees; in chronic cases sweat of the feet.

Tellurium.—*Left sciatica with sensibility of the vertebral column*; radiating pain from the sacrum to the right sciatic

nerve ; increased after walk, in bed, by expulsion of matter, on coughing, laughing, or lying on the affected side.

Veratrum.—Extremely violent pain with nervous irritability, pain as of an electric spark and itching, especially at night and towards third hour after midday ; is obliged to rise, to hang his legs during night and to walk.

—*L'Art Medical, Mai.*

COMMON DISEASES AND THEIR TREATMENT.

(Continued from page 141)

Selenium is a remedy particularly adapted to old age. It is useful for debility following exhausting diseases (sulph.). In that sphere it has mostly been used.

In general inflammation it has a place which remains unused. The following prominent symptoms lead to its use : Soreness in tuberosities of ischia, in a lean person ; pain in joints ; pain as after taking cold ; stiffness as if beaten ; *tearing in hands at night* ; cracking of joints ; pain in calves and toes ; swelling of ankles ; a piece of skin separates from sides of nails till it becomes sore and painful ; general emaciation, especially of face, hands, loins and calves ; intolerance of slight draught of air, he takes cold therefrom and then has tearing in limbs ; *weakness, after coition with irritability* (Phos) ; obliged to be down during the heat of the day and remain half asleep ; aggravation after sleep (Lach.), to which he is much inclined. He is worse in hot days ; pulsation in whole body, especially in abdomen after eating. It is a medicine for dipsomaniacs. Any inflammation of dipsomaniacs will be helped by the use of the medicine.

Sepia has : Drawing in all the limbs ; drawing tearing in limbs and joints ; easy dislocation and spraining of limbs ; swelling and suppuration of axillary glands ; painful tension in arms, and joints of elbow and fingers, as it is caused by contraction ; inflammatory, deep red, hard marbled swelling in middle of arms ; pain as if bruised in the right hip joint ; pain in hips with *tearing shooting ; bruised feeling ; she desires to sit down*

and when sitting feels as if she must stand up; soreness in the thigh with burning pain; painful swelling of knees; wrenching pain, especially on exerting the part affected, and also at night, in heat of bed; sudden pain in back as if struck by a hammer; forebodings about his disease.

Allen adds the aggravations within the clinical symptoms. "General aggravation twice a day, forenoon and evening, from washing in water, at rest. Pains begin morning immediately on walking, become very intense, and gradually decrease until in the afternoon they vanish. Pains are burning worse after eating, also worse before menses."

With regard to inflammation, Clarke remarks: "The action of *Sep.* on connective tissue is again exemplified in the selection of the finger joints as a seat of ulceration."

Sepia has proved curative in profuse perspiration of the hands and feet. A case of boils was cured having the profuse perspiration. We take it from Hoyne: "Boils on the neck, under the jaw, in the armpits, on the thighs particularly in dark complexioned persons.

A dark-haired, dark-eyed, and well-formed dark eye-browed girl, aged twenty-seven, was troubled with painful, indolent little boils in the armpits and thighs, and an irregular appearance of the catamenia, is moreover affected with a peculiarly sweaty condition of her feet, and painful excoriation between the toes. *Terebene soap* as a hygienic measure, and *Sep. 6th*, dispersed these annoyances in three weeks. Dr. W. Morgan."

It would be a reasonable expectation that what has been done with regard to boils may be done with inflammations. The characteristic symptom in the above mentioned case was the profuse perspiration. In any inflammation with profuse perspiration, advantage may be had of the remedy. At any rate, it is worth a trial in those cases of inflammation where the characteristic symptoms of *sepia* are found. . . .

Silica is prepared from different ways. We get it either from pure flint, silicic acid or silicon dioxide. The general source is the silicon dioxide. Hempel and Arndt say: "*Sificca* affects

principally the vegetative and the nervous system. Through the former it exerts that peculiar influence which makes it so prominent a remedy in diseases of the bone, in ulcers, in glandular swellings and in all those conditions which involve, or are accompanied by, profuse suppuration."

We are not interested at present to its checking power over suppuration. Our purpose is to find out whether Silica is applicable in cases of inflammation, that is in the stage before suppuration. According to Allen "It produces a well defined irritability of the nervous system, with extreme sensitiveness. (Nux V.); the spine is sore and pressure on it causes remote pains, the sphincters are irritable and close spasmodically; painful parts are extremely sensitive, and must be wrapped up warmly." Silica has the following symptoms: *Bruised pain in whole body* (Arn., Hep., Ruta.); *after coition*; *at night as if he had lain in an uncomfortable position* (Rhus tox.); *restlessness*; *aggravation of pain from motion* (Nux v., Hep S.); *chronic inflammation of glands*; *pain in the curved spine*; *pain in coccyx as after a long carriage ride* (Pic ac.); *bruised pain at night*; *sensation in tips of fingers as if suppurating*; *pain as if a paronychia would be formed on the left index finger*; *inflammatory pain in lumbar region (on the psoas muscle)*; *aching, shooting, burning and throbbing in lumbo-sacral region*; *throbbing and jerking of muscles of arms*; *induration of the cellular tissue of the forearm*; *swelling of legs as far as the feet*; *swelling and induration of glands, generally without pain, only sometimes with troublesome itching*; *abscesses which do not break, but burrow under skin*; *small of back as if beaten*; *as if toe-joints being pulled out of sockets*.

Can we administer Silica to a patient suffering from chronic inflammation? Our answer is in the affirmative though some will deny its efficacy in that stage of inflammation. We have observed the medicine to cure periosteal or osteal inflammation in whitlow. It may help in the acute stage of inflammation of any connective tissue as in psoas abscess, and the chronic induration may come within its influence.

Silica Marina or *Silica Maritima* is Sea sand. It acts in the same way as ordinary *Silica* does. The following case of Clarke is interesting: "A tall fair young man of 24, a violinist, presented himself with a mass of scrofulous glands on the right side of the neck softening at one point. I gave him *Sil.mar.* 3, gr.v., three or four times a day, and warned him not to poultice. The mass of glands soon began to diminish. The abscess matured, and discharged itself through a minute opening, and eventually healed without leaving a perceptible scar. The rest of the glands in the meantime disappeared."

The first point that strikes us is that *Silica mar.* should be tried in cases where the ordinary *Silica* has failed. The second is that both of them have influence on chronic inflammation with or without suppuration. A few glands disappeared having no suppuration, one only one had softening at one point. The slight suppuration was perhaps due to poultice. It can fairly be assumed that the chronic indurated glands disappeared by the use of the medicine. The same thing generally happens with ordinary *Silica*.

Slag or Silico-sulpho-calcite of Alumina is the slag of blast furnaces in which iron is smelted. Clarke writes; "It was introduced into medicine by J. Meredith (*H.W.* xxiv. 92) who gave the 6 dec. trit., to a patient suffering from house maid's knee, and in addition to relieving this it took away 'a dreadful anal itching, piles and constipation as if by magic.'"

The following symptoms were produced: Pain in limbs; aching between shoulders, and left elbow alternating with aching in region of spleen; pain in left elbow; pains in both knee caps, sometimes dull aching; house maid's knee; occasional shooting aching through knees.

It seems that *Slag* has power to alleviate pain in chronic inflammation as in house maid's knee. In other kinds of chronic inflammation, it is worth a trial and may prove efficacious.

Slag contains *Silica*, *Alumina*, and *Calcium*. The mixture of the three alkaline earths in a combined form is a proof of its usefulness. It should be tried on the failure either of *Silica* or *Calcium*.

Review.

Hæmorrhoids and Habitual Constipation, their Constitutional cure, with chapters on Fissure and Fistula. By John H. Clarke, M.D. Published by James Epps and Co., Limited, 1906.

The book comes from the pen of that well-known homœopathic practitioner of London, Dr. John H. Clarke. The issue of the second edition of the book amply testifies to the ability of the author, and its favourable reception by the public. The interesting way of writing his books attended with practical suggestions from cases is a peculiarity of Dr. Clarke. The case of Dr. F. H. Lutze published in the *Medical Advance* of May 1905 gives the first assurance for which the book is written. *Mercurius biniodatus* 200 cured headache, tonsillitis as well as the hæmorrhoids. Thirteen cases of piles, all cured or relieved, are inserted in the book. Three cases of fissure and five of fistula are added to them. The supplement is made by two cases of irritable eczema about the anus and thirteen cases of chronic constipation. In all, Dr. Clarke has given us thirty-six cases from his experience. This is real testimony of work—*facta non verba*. The book ends with the indication of medicines which have proved so valuable in treating his cases. The only thing we can say is that all homœopathic practitioners are in need of this book.

Whooping Cough cured with Pertussin its homœopathic nosode. By John H. Clarke, M.D. Published by James Epps and Co., Limited 1906.

In the first place the noticeable feature is the cure of that tenacious disease, the whooping-cough, in a short time by Pertussin. No less than seven cases have been cited in which this nosode has been effectively tried with other medicines. The introduction of these nosodes in our treatment serves the purpose of additional armaments in curing many obstinate diseases. We recommend the book to all homœopathic practitioners who are interested in using the nosode.

EDITOR'S NOTES.

Chicago Meat Packers.

The Times says :—

"The revelations began by the publication of a novel called 'The Jungle' by Upton Sinclair. It is said that Mr. Roosevelt was so shocked by the assertions in the book that he could not credit them. Nevertheless, he sent two representatives to Chicago, who made a careful investigation. They have not yet made a written report, but what they have told the President and legislators at Washington has resulted in the immediate drafting of a Bill which will be passed immediately, and which it is hoped, will put an end to conditions that are absolutely appalling."

The New York Times adds fresh light to the subject thus :

"We read of carcasses of hogs which had died from cholera made into lard and into grease which is used in making sardine oil ; of hams in putrefied condition injected with chemicals which made them odourless ; of the use of other chemicals for dyeing bad meat ; of potted 'ham' made from mouldy portions of smoked beef ; of tinned beef from cattle which died from disease ; of mutton which is really goats flesh ; of sausages manufactured from scrapings of floors liberally treated with embalming chemicals ; of inspectors passing as fit for food animals affected with tuberculosis ; of operatives being caught in machinery and mutilated, and of the machinery not even being stopped, so that human flesh is mixed in the canned food and sausages."

The horrible picture produces a sickening sensation to tinned meat. America is the head of all European nations in their good and bad business. Cannibalism is the last resort of the hungry meat eaters. The anticipation is that great blow will be given to the Beef Trust. The law against it has been presented to the House of Representatives in the Bill. The Trust fears more the exposure from the publication of the report of Messrs. Charles Niell, Commissioner of the Department of Commerce and Labour, and James Reynolds, his assistant, than from the heavy loss that will follow the passing of the Bill. •

In India, we are not in need of packed meat or condensed milk. It is perversity to use preserved foods when we can have plenty of fresh supplies. *Caveat emptor.* • •

The Tinned Meat Scandals.

PACKERS AND INSPECTION.

In connection with the struggle which took place between President Roosevelt and the Agricultural Committee of the House of Representatives at Washington, regarding the Meat Inspection Bill, proposed by the latter, which the President condemned as absolutely unsatisfactory, the *Telegraph* publishes an account of an interview which its New York correspondent had with Mr. Upton Sinclair, author of *The Jungle* on the subject.

"In my opinion," said Mr. Sinclair, "the bill offered by the committee is an insult to the intelligence of the people. It is common knowledge in Washington that it was drafted in consultation with the packers, and brought in by Congressman Lorimer from Chicago. It is hard to understand the lack of intelligence which the packers have shown but they have been accustomed to having their own way in every respect, and they simply cannot bring themselves to realise that they have now encountered a power stronger than their own.

"Personally, I am glad that they have chosen their present course, as I feel certain that the only result will be the making public of the further information which Mr. Roosevelt possesses, that bearing upon the use of preservatives and the working over of tainted meats. The public needs this information for its own protection. The provision in the committee's bill permitting the use of preservatives in quantities not injurious to health is intended to enable them to continue their present practices. The taking out of the provision compelling the printing of the date of canning upon all labels is done for the same purpose. Before the Court of Inquiry appointed to investigate the 'embalmed' beef scandal at the close of the Spanish war, it was proved that two carloads of so-called canned roast beef which were rejected by the commissaries for the reason that their odour was intolerable, were shipped back to Chicago and rehandled. It was testified that when those cases were opened in the packing houses, ammonia had to be scattered on the floor to relieve the smell, add that the contents of exploded cans were taken out, and sent back to the canning rooms. And then it was testified by both privates and officers who had been on duty in Cuba that they had opened cans of meat and found dead maggots canned inside.

"As to the provision putting the cost of inspection upon the Government, no one should be deceived into thinking that what the packers care about is the two or three million dollars, which it

would cost for two or three million dollars would not represent the loss in profit to them of a single week of enforcement of the law. The only imaginable purpose of that provision is that it will enable the packers to cripple the inspection service when the public clamour has died away.

"Mr. Wardsworth, chairman of the committee, which proposes this emasculated bill is the man, who has been charged by the packers with doing this duty year by year. The abominable conditions which have shocked the civilised world are not due to laxity on the part of Department of Agriculture, which has been struggling to broaden the inspection service. They are due to the fact that year after year, the request of the Secretary of Agriculture for funds has been smothered in the House Committee on Agriculture, which is ruled by this tool of the Beef Trust."

The Psychology of the Anarchist.

The *British Medical Journal*, June 9, writes :

"The anarchist—is he insane and to be treated as a degenerate, or is he simply wicked, a pure criminal, and as such to be held responsible for his acts, and dealt with according to the utmost severity of the law? The anarchist proper is by no means of necessity an insane person, he may be insane, but not as a matter of course, any more than an upholder of the regulated social system should be held to be always sane. Social discontent draws around some anarchist of more than ordinary intelligence or volubility a coterie of persons many of whom are insane or degenerate, easily influenced and specially liable to emotional appeals; these are the people who are most frequently made use of as tools for the accomplishment of the designs of the deliberate enemies of law and order. There are, then, two types among anarchists: the misguided enthusiasts dissatisfied with the scheme of things who plan sensational crimes, and their perverted followers, the fragile fulminating agents in the explosive machinery. The distinction between these classes of subordinate and superior is not a psychological subtlety, for whilst we may pity or deal leniently with the one class, we can have no mercy for the other. Anarchism is not then, *per se*, evidence of insanity, it is the local sign of a certain tendency fostered by education and opportunity, and this tendency is made up of feelings, motives, and actions which, though out of harmony with the environment, are yet not incompatible with mental faculties of a high order. It is argued that those who hold

the doctrines of anarchy must be insane because they do not profit by experience, do not change after failure, and are irreclaimable ; they cannot see, it is argued, that as soon as one breach has been made in the line of continuity the place is at once filled, and that the more this ordered system of things is attacked the stronger will be the determination of the adherents of that order to resist and to assume the offensive against the invaders. Not to see the inevitableness of all this may be obstinacy, but it is quite compatible with judgment, shrewdness, kindness in certain directions, courage, and other constituents of a sound mind. Moreover, it is not altogether true to say that the repeated acts of outrage and murder are unattended by results favourable to the perpetrators. The acts do at times succeed in producing the effect the anarchist desires in that they cause a temporary upheaval of the social system ; he hopes that by repeated successes he will establish a system by terror, and therefore he strikes again and again at the representative person, be it emperor or president, king or queen, the highest embodiment of the political tendency of the people. He strikes at the exalted personage not because he has any personal feeling against the individual, but because he wants to destroy the image, the local sign, of the detested majority. He knows himself to be in a minority, but he hopes to convert that minority into a majority, and in this idea he is fortified by the accession to his ranks of men or women whose aims are plunder, personal aggrandizement, or notoriety, or who are merely attracted by the glamour of persecution. The anarchist feeds on the idea that kingdoms, religions, and dynasties founded on force have achieved success through bloodshed and a subversion of the pre-existing order ; therefore he argues that he should follow the same lines, and pits himself and his coadjutors against the majority ; if he fail on one occasion he runs away and prepares for another.

It may be said that he has reduced himself to a state of mono-ideism, being convinced himself that he is right ; but mono-ideism is not insanity, though very often it is a condition dangerous to the integrity of a community as it is dangerous to the mental integrity of the individual ; if the community is embarrassed and threatened it has a right to take the best means to protect itself. The ideas of the anarchist are not necessarily delusions ; they are the deliberate assumption of views of social life not accepted by the majority, and when they are accompanied by acts of violence or by the incitation of others to commit such acts, then society has a right to protect itself and to deal with the offenders in the way which seems best. The

great question is what means are the best. Purely repressive measures often fail, rather confirming these obstinates in their conviction of the harshness and injustice of the social order. The anarchist may be a madman, but more often the moving spirit in anarchical schemes is a man of considerable culture and intellect, ready, however, to use the most extreme and barbarous methods to attain his ends. He is a social weed, alien to the evolution of civilization, and when he does not exterminate himself must be eradicated by settled authority. An anarchist is not to be called a reformer because he sees and feels that the social system is capable of improvement. A true reformer is one who seeks to guide and reinforce the natural course of human evolution towards a higher type of social organization. An anarchist is an enemy to established order, but the profession of anarchist principles does not connote insanity. Therefore, when the community is asked to spare the lives of such persons, it may fairly retort, *Que Messieurs les assassins commencent!*"

This nice distinction between insanity and mono-ideism may help to differentiate many social evils. But there are authorities who are disposed to place mono-ideism within insanity. The examples of kleptomania, dipsomania and other kinds of mischievousness come under mono-ideism. After all, can we ascribe the feats of Sir Bamfylde Fuller being due to mono-ideism? Or is it a fit of mono-insanity? In fact, we do not find any difference between the two terms. The inhibitory force to suppress our many evil tendencies, and the power of judgment to distinguish between right and wrong by the bad effect that will be produced on the society in which we live, are the two principal factors of conclusion in any case. When they can not exercise any good influence on the person for the evil result which is likely to produce, we can safely assert the person is insane, though guided by the mischievous influence of mono-ideism.

Dr. F. W. Mott in his lecture on "The Pathological Investigation of the Causation of Insanity" defines insanity thus: "An individual is considered insane whose conduct is anti-social, when owing to a morbid state of his mind, he no longer feels, thinks, or acts in accordance with the usages and customs of the society in which he lives." The definition is wide and it comprehends mono-ideism. The plain fact is that all insane persons are ideists. The difference is that pernicious ideisms are carried into effect, which would receive obstruction from sane persons.

There are mono-ideisms, which when acted on, come under the province of criminal insanity. If these insane persons destroy the fundamental rules of good society and government, they may be called anarchists. The anarchism of the Anarchists of Europe and America, and that of Sir B. Fuller in East Bengal, almost come to the same thing with regard to the ravages created by them. The behaviour of the anarchists depend on their intolerance of the wealthy class. The present anarchism in East Bengal is mostly due to the setting of one class against another and lawless actions.

• A case of Hyperpyrexia.

The *Lancet*, June 2, supplies us with the following interesting case of abnormal rise of temperature

"We have received from Mr J. I. de Quadros, of Byculla, Bombay, a pamphlet containing an account of a remarkable case of hyperpyrexia, being an abstract of a paper read before the Bombay Medical and Physical Society on August 17th, 1905. The patient was an unmarried European female, 47 years of age, one of whose servants had died from plague on March 27th, 1905, and who herself on the forenoon of the following day had a distinct rigor, succeeded by severe vomiting, headache, and fever, with pains all over the body. A medical man, who was called in, diagnosed plague. When Mr. de Quadros saw her at 11 p. m. her temperature was $107\frac{4}{5}^{\circ}$ F and she was vomiting a good deal. Nothing abnormal was found in the lungs but the heart sounds were very feeble and intermittent. The abdomen was large, full, and markedly tender. The hypogastrium and both flanks were occupied by a large fibromyoma. He considered the case to be one of peritonitis and prescribed a sedative diaphoretic. On March 29th her temperature was normal at 7 a. m., 110° at 1 p. m., and 100° in the evening. On March 30th she vomited a good deal and was very low; the highest temperature for the day was $108\frac{4}{5}^{\circ}$ early in the afternoon, falling to 96° in the evening. On March 31st she was very low, with intermittent pulse and hiccupping a good deal. Mr. de Quadros called in consultation Lieutenant-Colonel H. P. Dimmock, I.M.S., who was of opinion that the disease was not plague but endocarditis, the patient's temperature rose twice this day—namely, to 111° at 2 a. m., falling in the forenoon to $96\cdot8^{\circ}$ and rising again to $112\cdot4^{\circ}$ at 10-30 p. m. On April 1st she had a fairly good day but in the evening she complained again of pain in the cardiac region; her pulse was bad, her extremities were cold, and

respiration was difficult; at 8 30 P.M., her temperature had risen to 110°. On April 2nd the temperature rose to 110° at 4.30 A.M. and again at 2 P.M.; the chart accompanying the description of the case shows that temperatures between 95° and 97° were also five times noted on that day. The chart further shows that these great fluctuations continued almost daily until April 19th. During this period a maximum of 111° was noted twice on April 3rd, twice on April 5th, and once each on April 8th, 12th, 15th, 17th and 19th; simultaneously temperatures of 97° and under were invariably noted several times each day. On April 20th and 21st the highest temperature recorded was 103° and after this it remained normal until April 28th, when the patient had severe pain in the heart and a rigor; the temperature at the same time rose to 111°, remained high for two hours, and then dropped to normal, leaving her exhausted. After May 1st she remained well. As already mentioned, Mr de Quadros at first believed the case to be one of peritonitis but the subsequent progress of the symptoms led him to change this view, he was unable to accept the diagnoses of plague and endocarditis and he inclined to the opinion that it was a case of "flushing" due to climacteric disturbance."

How many theories have been advanced to understand the phenomenon of pyrexia. The curious feature is, we deal every day with fevers and still we understand so little of their physiologico-pathological nature. The behaviour of the thermic centre of the brain remains an unascertained theory. It is as yet an unexplored region. The surmised fact is that this is the equalising centre which prevents abnormal rise or fall. How the equilibration is destroyed remains unknown. It seems that the vagi and the sympathetics act in equilibrium. The loss of control of the vagi giving predominance to the sympathetics may be the real cause of the rise of temperature. At any rate, definite experiments are necessary to remove the intricacy of the subject.

Dr. Bergel expounded the theory of bacillary irritation in fever. The failure of rise of temperature in certain cases is explained by the theory of Ehrlich. In those cases, the cells of homologous organs are supplied with receptors which are not equal to other cases. They produce different symptoms, without the fever. In cases where the fever is due to mechanical injury, the theory of bacillary irritation and homologous receptors can not hold good. The final assumption is the destruction of equilibration of the thermic centre, whatever the cause may be.

School Hygiene.

The Public Health of May, says :

" On the initiative of Dr. Cesar Roux, the use of a personal record book has been introduced into the municipal schools of Nice. Each pupil is provided with a small book, in which are recorded all particulars as to his age, domicile, place and date of birth, successful vaccination, weight, height, chest girth, and aptitude for sports. Advice for the correction of wrong positions in reading and writing, and on the dangers of alcohol and tobacco are appended. The medical inspector records his advice to the parents of the child as to the care to be exercised in his bringing-up. A special advantage of the record is that children whom the teacher might otherwise punish for idleness or misbehaviour are shown to be suffering from adenoid growths, nervous troubles, or hereditary taint of one kind or another. It is more than twenty-five years since M. Francis Galton suggested the use of such records."

The introduction of the health book is necessary in all schools. Instead of lectures on tuberculosis with doubtful theories in schools, if sufficient care be taken of the health of each children by a book as above, ample benefit will be derived from the adoption of such measure. We earnestly recommend our school authorities the use of the scheme. Even unnecessary punishments can be avoided on account of the ill-health of children.

The Indian X-Ray Institute.

We are glad to find that the Government of India has decided to establish a central institute in India for practical instruction in the use and management of the X rays, and as a depot for the storage and repair of the necessary apparatus. The institute will be located at Dehra Dun—the happy valley, as it is called. It will be under the superintendence of an officer of the Indian Medical Service, who will have under him the necessary subordinate establishment to assist him in his duties. Classes will be held for the instruction of medical officers and subordinates in civil and military employment, the course of instruction in each case extending over three months. The Local Governments have been asked to encourage the medical officers, and the subordinates serving under them to avail of this opportunity to acquire a practical knowledge of the X ray apparatus. We hope the Government of India will be good enough to allow all private medical practitioners who have been graduated at Government Medical Institutions to join the X ray institute.

CLINICAL RECORD.

Indian.

TWO CASES OF GASTRODYNIA.

By DR. H. C. RAY CHAUDHURI, L. M. S.

CASE I.—Babu————'s wife aged 42, resident of Sankaritola East Lane, was attacked with pain in the stomach and vomiting on the 5th June, 1906. The pain, was so severe that she was obliged to double herself up. The gripings in the stomach continued for an hour or more intervened by slight relief. There was total aversion for any kind of food. The agonising pain was accompanied by an inflammatory condition of the stomach, which made it impossible to impart slight pressure for examination. The vomitings were mostly acid mixed with bitter bile. She had two stools. Nux v, Lycopod., and Berberis were given to her by a homœopathic practitioner without relief.

6th June.—I administered her *Cocculus* 3 dec. which gave her relief after two doses.

Remarks.

She was in the habit of getting these attacks at the interval of 2 or 3 months, which lasted 3 or 4 days and then relief ensued. *Cocculus* gave her relief on the second day.

CASE II.—S.————a girl aged 12, resident of Serpentine Lane, used to get the painful attacks of gastrodynia now and then. She was always treated according to the old school method. Indeed allopathy could do nothing either to prevent or mitigate these attacks. With intense griping pain in the stomach and vomiting, the little girl was reduced to skeleton. Even mustard plaster could not prevent the vomitings. She would lie down on one side and double herself up with pain and the vomits would issue by intermittent currents. There was sufficient pain in the stomach which created extreme tenderness of the part, disallowing even light pressure. She used to get these attacks almost every month. The pain remained for 4 or 5 days, and then there was relief. This time an amateur homœopath prescribed Nux. v and Ipec. without relief. This was on the 23rd June, 1906, the first day of the attack.

24th June.—I prescribed *Cocculus* 3 dec. In the evening, the report was brought that she had no alleviation of her suffering. I was then informed that even cold water would only remain for

about five minutes and then come out. She had three stools during the day. *Phos.* 6 dec. was given to her with immediate relief. There was no further vomiting.

25th June.—*Phos* 6 dec. was continued.

Remarks.

In this case relief could be had on the second day, where the old school treatment repeatedly failed. *Phos* was given on the pathogenesis that water or any cold liquid food would only remain for a short time before the heat of the stomach could be fully imparted to it. The girl is now under my observation. I now give her no medicine. She is obliged to observe slight alteration in her diet.

Foreign.

A CASE OF ANGIOMA.

By A. A. POMPE, M.D.

The patient came under my care about two years ago, and was brought by its parents in order to have the angioma removed surgically. On my explanation that the mechanical work would not cure the little girl and would leave the cause behind, and might next involve probably one of the mammary glands (a supposition which was very rational, because already several bloodvessels extended from the tumor to the nipple) and lead to its amputation and consequent disfigurement, etc., of the woman to be, the parents consented to my trial with the little pills medicinally.

Acetic acid was prescribed first, not for the patient, but tumor, hence failed as all such prescriptions do. It was persisted in one month, during which period the tumor steadily increased in size. Right here I must state the child was fourteen months old and the tumor developed when she was about ten months old.

My next prescription was *Calc. carb.*, which was prescribed for the patient instead of tumor, but evidently did not fit, as it made no impression in the low or high potency. Then followed *Lycopodium* and *Carbo veg.*, each remedy given several weeks' trial. The tumor kept enlarging all the time, but still I persisted, and told the parents that some remedy must exist that would cure this condition. After these failures the constitution of the mother was taken into consideration, the father being apparently perfectly sound, and the next remedy administered was *Phos. c.c.* Inside one week the mother

wrote to notice a decided improvement, and the tumor kept diminishing in size, as well as the whole child underwent a change for the next ensuing four months. During these four months she received four doses of *Phos.*, two in the cc. and two in the em. ; and no doubt through the unskilful administration, or too frequent repetition, or inability to select the following remedy required, the patient made no further improvement while she remained under my observation for several months after the *Phos.* failed to continue its action.

This failure after partial success, as well as other failures, induced me to take a post-graduate course for a full term at the Hering College of Chicago, now just completed, and on my return home I will endeavor to get the patient under treatment again, even if I have to pay them and do the work gratis.

Let me add that already the visible proof of the power and truth of Homœopathy presented to several old school men at the Cook Country Clinics during leisure moments has induced three or four to ask of me a list of homœopathic text books.—*The Homœopathic Recorder*, June 15, 1906.

A CASE OF APPENDICITIS.

By C. ASSEM, Prior.

Translated for the HOMŒOPATHIC RECORDER from the *Leipziger*

Pop. Z. f. Hom., December 1, 1905.

In the Fall of 1903 a young clergyman of the neighborhood was seized with appendicitis, and his physicians urgently recommended him to be operated. I was also asked for advice, when I, of course agreed with the physician ; but at the same time I sent the patient some homœopathic pellets of *Aconitum* and *Arnica* to use after the operation.

He travelled to Vienna in November, and Prof. Dr. Ullmann performed the operation, excerpting, according to the statement of the patient, the whole of the appendix, as this was also ulcerated and full of pus, which was declared to be a very unfavorable symptom. The patient, who was enjoying the best of care in a cloister of the Sisters of Mercy, now used the homœopathic remedies I had given him, *Aconitum* and *Arnica*, and later he also received *Silicea*, after which he gradually recovered, so that he could come back by New Year. Owing to his anæmic appearance I gave him *Calcarea carb.*, and in the summer he was so far restored that he could again perform

the duties of his office. But preaching in a large church seemed too much for him, for in the Fall he commenced to complain of pains in the place which had been operated on, and he had to take to his bed.

Now Homœopathy had again come to his assistance. The leading trouble of the patient was an intense feeling of soreness in the place operated on; a hard, knotty stool, with pain when the contents of the intestines passed that place, as also the anus on account of the piles there; also rolling and grumbling in the abdomen; loss of appetite and insomnia add great irritability; the pulse rose to above 100. I gave him now, according to the symptoms, *Arnica*, on account of the soreness; *Graphites*, on account of the irritation of the scars and the troubles in the stool; and *Phosphorus*, on account of the gases which could not find a way out, since the point where the appendix terminated seemed to be closed. These three remedies the patient was to take in alternation, dissolved in water, every hour a teaspoonful. This prescription was not, indeed, according to the rules of art, according to Hahnemann, but I was afraid the spot might become gangrenous. The result was good, and in a week the patient went again to take the air, and he is at present filling the place of a lecturer in the school.—*The Homœopathic Recorder*, June 15, 1906.

ANACARDIUM : DYSPEPSIA.

CASE I. Patient æt. 58, manufacturer, leading a strenuous mental and physical life from morning to night. Dyspeptic for three years. He complained that almost daily about 11 a. m. and 5 p. m., he had crampy gastric pain; in the morning with nausea, aversion to work, and bitter eructation which failed to relieve; and that he formerly had much pyrosis and gastric acidity. Lately the pain and cramps had become much worse. He always felt worse after prolonged mental labor and with an empty stomach; felt immediately relieved after eating, an amelioration lasting about 2 hrs., after which there was gradual increase in the pressure in the stomach to an unbearable pain. Appetite always good; bowels regular; poor sleep before midnight, but slept well in the early morning; on waking, complained of weariness; also suffered from piles. *Anacardium* 6, gtt. ij, morning and evening, with the caution to discontinue the remedy when improvement began. A week later the patient reported that the first dose had caused a violent aggravation which gradually subsided in 3 hrs. The next morning the dose was repeated. Since then (1 1-2 years,) there has been no return of the trouble.

CASE II. Patient, aet. 40, director of a large establishment, and subject to much care and worry. Within the last few years a chronic gastric catarrh had developed with slow digestion and chronic costiveness alternating with diarrhoea. He also complained that his memory and ability to work had greatly failed; after slight mental labor he felt a pressure in the frontal region; marked general weakness and drowsiness during the day, especially after meals. Vivid dreams tormented him at night, the recollection of which persisted even during the day; he felt irritable, hypochondriacal, full of care for the future. His stomach caused him the most trouble; frequent bulimia, quickly satiated. The contractive gastric pains were worse before eating, after which there was immediate relief for about 3 hrs. during which he felt very drowsy. He often had to stop his work to eat. At the period of consultation he was constipated, with the feeling of a dull pressure in the rectum which he endeavored to relieve by enemata. He was much subject to catarrhal affections of the respiratory tract, colds, coughs—especially after becoming chilled. Examination showed, aside from great emaciation and anemia, only a dilatation of the stomach and intestinal relaxation. Under anacardium 6 (also the 3 and 8) the gastric troubles were cured; the dilatation responding to carbo veg. 6 and nux vomica 6.—*The North American Journal of Homœopathy*, June, 1906.

TABACUM IN SICK HEADACHE.

A lady, aged 30, of lymphatic temperament, always subject to periodical sick headaches, lasting one or two days, and generally brought on by fatigue or excitement. The present paroxysm was more severe than any she had ever had. The pain was intense and agonizing, at times seeming as if the head would burst, and again, as though the brain was being bored out. She sought continually to hide her head in the pillow, or to change it to a position that might relieve. Faintness, nausea and vomiting of all that had been eaten, and painful retching to vomit small quantities of mucus and bile; skin pale and cool, with clammy perspiration, breathing oppressed and labored, countenance sunken and anxious. Tabacum 2 was given at half-hourly intervals. After the third dose complete relief was obtained. No paroxysm has since occurred (two months).—*The North American Journal of Homœopathy*, May, 1906.

Gleanings from Contemporary Literature.

THE HARBEN LECTURES FOR 1906.

By PROFESSOR ELIE METCHNIKOFF.

LECTURE I

The Hygiene of the Tissues.

PROFESSOR METCHNIKOFF (who delivered his lecture in French), after some remarks on the methods of modern medicine proceeded to observe that in the course of typhoid fever there was formed in the serum at the same time as agglutinin a property called "sensibilisatrice"—i.e., a substance which modified the typhoid bacilli in such a way as to render them more liable to be destroyed in the body. The idea that these properties of the body liquids played a primary role in immunity had become so deeply rooted that it had even been suggested to measure the degree of immunity by the agglutinating or the sensibilising power of the blood serum. Later, however, it became necessary to give up that method. On the one hand, persons might be refractory to typhoid fever without possessing any specific properties in their body liquids, yet, on the other hand the presence of such properties in no way guaranteed immunity. Thus they might frequently observe a large quantity of these agglutinating and sensibilising substances in the serum of patients at the time when a relapse of the disease was developing. He described experiments which proved that the essential phenomenon in acquired immunity consisted in certain modifications which living parts of the body underwent. The phagocytic organs were the nuclei of production of the antityphoid sensibilising substance. On the strength of researches they might conclude that the phagocytes, those cells which fought against the microbes and which devoured and digested them, were able to elaborate and even to excrete into the blood substances which fixed themselves on to the microbes and rendered them more amenable to their destruction by the body.

Recent observers on the origin of the antityphoid sensibilising substance insisted on the local production of these substances and concluded that every living cell could produce sensibilising substances, but the peritoneal and pleural liquids, far from harbouring all sorts of cellular elements, contained a number of different phagocytes, and therefore further support was given to the thesis that the phagocytes were the true producers of sensibilising substances. Acquired immunity should therefore be regarded as a superactivity of the phagocytes which manifested itself by the overproduction of sensibilising substances, by their power of reacting strongly to the introduction of microbes and their products, and, lastly, by their capacity of enveloping pathogenic microbes and of destroying them intracellularly. Extensive series of experiments carried out in the last few years had proved that the essence of immunity lay in the living elements of the body and that it was the phagocytes which gave protection. The

humoral theories of immunity, which sought to explain this phenomenon by certain pre-existing properties of the body liquids, had proved to be incapable of being maintained. But latterly the attempt to detract from the importance of phagocytic action by subordinating it to a humoral influence had been renewed. It was chiefly Wright who was the champion of that new theory.

Though fully recognising that the destruction of microbes in the organism was mainly effected by the phagocytes, Wright asserted that these cells could only act on such microbes as had already been impregnated with opsonin—i.e., a soluble substance circulating in the blood and met with in the other body liquids.* As proof of that theory Wright cited numerous experiments made by himself and Douglas in which he allowed the phagocytes to act on microbes outside the human body *in vitro*. If the mixture of those living elements was bathed in normal serum of man or animals phagocytosis began almost immediately, whereas it did not commence until much later and was but imperfectly accomplished when phagocytes and microbes were brought in contact with serum that had been heated to 60°C. If the microbes alone were emulsified in unheated normal serum the opsonin of the serum fixed itself on to them and made them amenable to speedy envelopment by the phagocytes. Wright supposed that the phagocytes played only a passive role which depended on the preliminary action of the opsonin. Neufeld and Rumpau in the sera of animals immunised against various microbes found a substance which had no direct action on the phagocytes but which could fix itself on to the corresponding microbes and thus modify them in such manner that they were more easily devoured by the phagocytes. Neufeld and Rumpau called that substance a "bacterio-tropic substance" and considered it to be distinct from opsonin. Wright had himself in his later publications acknowledged the occurrence of spontaneous phagocytosis—i.e., phagocytosis which became apparent without any addition of opsonins. One might suppose that in these cases of spontaneous phagocytosis the opsonin, should it really be indispensable, might be secreted by the leucocytes. Thus these cells, having been transferred into normal saline solution and finding no opsonin in the surrounding liquid, might themselves give off enough of it to allow them to envelop the microbes. This supposition had not yet been experimentally verified, but should it be confirmed, it would prove that the phagocytes were capable of producing substances preparatory to phagocytosis. If the opsonins were identical with the sensitising substances the problem might be considered as already solved, for the phagocytes were without a doubt one of the sources of these latter substances. Even if one were forced to the conclusion that the preparatory action of the opsonins was absolutely necessary, and that those substances could only arise from the serum, their function would still appear to be a far less important one than that of the phagocytes. For the opsonins could only prepare the microbes for their destruction by fixing themselves on to them, but they were not able to modify these microbes in their vitality or

virulence, whereas the phagocytes hindered the microbes from multiplying, killed them, and made them entirely disappear.

If they summed up the whole of those observations on immunity against infective agents they could not but conclude that that phenomenon was the result of a phagocytic action, that in other words immunity was a function of the cells. Those results might serve as a general rule of hygienic behaviour towards cellular elements. Those cells should be stimulated in their activity in order successfully to fight the germs of infection. Thus, in most of the methods of vaccination against microbial diseases a modification of the cells in that sense was being effected. Everything that might weaken the phagocytic action, like the tincture of opium, should be strenuously avoided. Although the phagocytes belonged to the most resistant elements of the body, yet it was not safe to count on their insensibility towards poisons. They were harmed even by small doses of opium. He called their attention to the influence of alcohol on immunity. It was well known that persons who indulged too freely in alcohol showed far less resistance to infectious diseases, especially to croupous pneumonia, than abstemious individuals. Not only opium and alcohol hindered the phagocytic action but a number of other substances regularly employed in medicine caused the same results. Even quinine, the prophylactic effect of which in malarial fevers was indisputable, was a poison for the white blood cells. One should therefore, as a general rule, avoid as far as possible the use of all sorts of medicaments and limit oneself to the hygienic measures which might check the out-break of infectious disease. That postulate further strengthened the thesis that the future of medicine rested far more on hygiene than on therapeutics.

More than ten years ago it was shown that by injecting guinea-pigs with certain liquids it was possible to increase their resistance towards pathogenic microbes. That plan of enhancing the phagocytic action in general medical practice might with great advantage be employed by practitioners. The new method was already beginning to find its way into practice and was worthy of attracting general attention. A Paris surgeon, Raymond Petit, had decided to employ heated horse serum in his gravest operations and had continued making use of it in a series of abdominal and pleural operations. Several other surgeons had also followed his example and as the results had always been most satisfactory it was to be hoped that the method would soon come into general use. Mikulicz also endeavoured to introduce into surgery the use of substances increasing phagocytic reaction. To that end he practised subcutaneous injections of a solution of nucleinic acid 12 hours before operation. He (professor Metchnikoff) thought that the method of injecting heated horse serum into the peritoneal or pleural cavity was superior to that of Mikulicz but both these methods must be regarded as most useful for protecting the tissues of the body when injured and weakened by operation. Evidently neither the use of serum nor of nucleinic acid were the last words of wisdom.

In analysing the mechanism of the influence of horse serum on the post-operative period they found no difficulty in coming to the conclusion that that influence was not brought about by an increase in the sensibilising substances or by a production of opsonins. The use of substances enhancing the phagocytic reaction in the protection of tissues which were subjected to operation was but the first step forward in the hygiene of the tissues. That subject would have to be extended to other cases where their living organs were threatened by microbes and where it was necessary to protect the former against the latter. With regard to that question they might rejoice that the foundation-stone of the hygiene of the tissues—i.e., thesis that the phagocytes were the arms of defence against the infective germs—had at last been generally accepted.

LECTURE II.

The Hygiene of the Alimentary Canal

If on examination of the blood a marked increase of the leucocytes was noted an infectious disease was thought of but there were cases in which leucocytosis occurred normally quite apart from any disease. Such an occurrence was that of the digestive leucocytosis. The analogy was so striking that one might be tempted to enquire whether the digestion of food was not also a kind of infection? The fact of the matter was that after meals a certain number of microbes penetrated through the intestine and found their way into the circulation. It seemed to be proved that microbes could penetrate into the blood by way of the intestine. Under natural conditions the wall of the intestine frequently enough was injured by sharp or hard particles of food, such as pieces of bone, the stony tissues of certain fruits, &c. An animal which was to be bled should first be made to fast and would then furnish a serum free from microbes. It was highly probable that the microbes of the digestive tract, which multiplied abundantly after every meal, found better opportunities of traversing the intestinal wall at that time than at any other period of the day. It was probable that in many diseased conditions which one was wont to attribute to intestinal intoxication an infection of the blood by intestinal microbes, more especially the bacillus coli, had really taken place, those microbes having invaded the body tissues through the wall of the bowels. Those results, which had been accumulated by science, proved that the intestinal wall was worthy of being made the subject of most careful hygienic consideration. Worms were so often found living quietly in the intestines and their hosts found to be in no way suffering through them that one had grown accustomed to consider them as almost or quite inoffensive. And yet that optimism was by no means justified. There could, of course, be no doubt that an intestinal worm need not impair health in any way, just as many mosquitoes, fleas, and ticks may prick man and animals without causing anything more than a transitory and not painful itching. But, on the other hand, it was equally certain that the bites of intestinal worms

might cause just as much evil as the pricks of arthropoda carrying pathogenic microbes. That fact was best established by a study of appendicitis.

The number of cases of appendicitis in which entozoa, especially nematodes, were found would appear to be considerable, so far as one could judge from the literature upon that subject. The success which frequently resulted from vermifugal treatment in persons suffering from appendicitis proved the importance of the entozoa in that disease. It was very probable that the role of intestinal worms was not limited to the inoculation of the microbes of appendicitis. Guiard believed that they might also serve to transfer typhoid bacilli to the mucous membrane and thus be the cause of enteric fever. That supposition was a very probable one and it would have to be studied more precisely. Even in certain tumours the role of the entozoa would appear very probable. More recently Boriel had called attention to the presence of intestinal worms in the centre of tumours of mice, which he believed to be of intestinal origin. The whole of these data indicated that it was time to undertake a campaign against the entozoa, which would have to be conducted on similar lines to the war now waged against the mosquitoes and other microbe-carrying arthropoda.

In order to hinder the intestinal worms from penetrating into the human body it sufficed as a rule to keep careful watch over food-stuffs. The discovery that persons enjoying perfect health often harboured infectious germs dangerous to their surroundings had caused rather a disturbance in the rules of hygiene. Formerly examinations were mainly carried out on patients, as they were believed to be the principal source of contagion. Their beds, their linen, in short, everything that had come within their reach, was disinfected, but no attention was paid to the persons who were feeling well. At present efforts were directed to finding out among the latter class of people the "bacilli carriers," so as to bring to bear on them the precepts of hygiene. It was evident that hygienic measures destined to prevent contamination of the digestive apparatus must in the first place watch over everything that entered by the mouth. Food and drink should at least be boiled before being consumed. The temperature of boiling was insufficient for sterilisation—there always remained spores of *Bacillus subtilis* and some others—but the ova of parasites and the pathogenic microbes would be destroyed almost without exception. Where pasteurisation of milk—i.e., heating to between 65° and 70° C—was practicable it might well replace the process of boiling. The process of boiling should also be extended to vegetables. As it could not be doubted that salad, radishes, and other raw vegetables transmitted entozoa and pathogenic microbes, their surveillance from a hygienic point of view became indispensable. Washing these vegetables, even with boiled water, was not sufficient, and it was necessary at least to scald them with boiling water, or better still, to boil them.

Among fruits it was principally strawberries which introduced parasites, ova, and infectious germs into the intestinal canal. It was therefore

necessary to boil them. Even cherries, although growing on trees and far from the soil, should be carefully scalded or boiled, because the birds which took a bite out of them frequently contaminated them with contagious matter. It was, as a rule, wiser to eat fruits, so far as possible, in the form of jams. An idea was prevalent, not only among the general public but even among medical men, that raw or boiled eggs were an excellent food-stuff. But it was forgotten that the white of egg, which was elaborated in the oviduct, in the immediate vicinity of the cloaca, often contained microbes and occasionally even eutozoa. There could be no doubt that the whipped cream of pastries, which sometimes caused very serious illness owed its harmfulness to raw or insufficiently boiled white of egg. Not only was it most desirable to take no food that had not been heated up to between 65° and 100° C., or even higher, but it was often, especially at times of epidemics of cholera or other intestinal diseases, necessary to make sure that the food had not been touched by suspicious hands. To that end it was desirable to provide dishes heated by spirit-lamps, on which the food could be placed before consumption. Vegetables and strawberries might be grown under satisfactory hygienic conditions, so as to permit of their being consumed raw. To that end it would be necessary to watch scrupulously over the soil and the manure and to use only irreproachable water for the purpose of watering. Amongst the different varieties of strawberries the one called "capronel" might be very serviceable, for it grew so high that its berries did not touch the ground, besides being noticeable for its peculiarly fine flavour and smell.

In future, when hygiene would become more of a general habit, there would no longer be any need to insist on the use of sufficiently boiled food. But at present it was imperative for persons who wanted to carry out the precepts of hygiene to boil what they drank and adequately to cook their solid food. That was the only way to prevent the entrance into their digestive apparatus of harmful microbes and of parasites which opened up for those microbes a mode of entry. No one could deny that a system based on the principles above laid down would insure the body against all sorts of diseases of the digestive apparatus. Possibly it might even assist us at the same time to avoid certain maladies against which science of to-day was almost entirely helpless. The intestinal worms played an important part in the etiology of appendicitis by allowing pathogenic microbes to find their way into the mucous membrane. Now, those worms were most often introduced by raw food, amongst which vegetables and certain fruits were of primary importance. The progress attained in the cultivation of those plants had led to their increasing consumption. Only at a comparatively recent date strawberries and some vegetables—e.g., lettuce—came into such general use that they could be procured all the year round. In those circumstances the frequency of intestinal worms was easily explained.

The relations between entozoa and tumours had been mentioned. Might not the entozoa serve as gates of entry for the hypothetical parasites of

those tumours? Whilst the malignant tumours on the whole were becoming ever more frequent certain varieties of cancer were observed more rarely than formerly. Thus amongst those classes which observed care in the cleanliness of their skin cancer of the skin was observed only in quite exceptional cases and it had without a doubt become much rarer. By reason of that fact Czerny recommended as means of preservation against cancer rigorous cleanliness and perhaps also the giving up of all raw food. For a long time the principle had been laid down that in the feeding of infants the use of raw food should be avoided. That principle was suitable for every time of life and there was no reason why it should not be applied to adults and to aged people. Thus they might avoid so far as possible the entry into the body of the causes of all kinds of diseases.

But there existed yet another means of attaining that end. It consisted in modifying the flora of the alimentary canal by acclimatising to the intestine useful microbes. The first step in that direction had been taken during the last few years. Amongst the useful bacteria the place of honour should be reserved to the lactic bacilli. They produced lactic acid and thus prevented the development of butyric and putrefactive ferments which should be regarded as redoubtable enemies. It had been shown by an extensive series of experiments that certain lactic ferments easily accustomed themselves to live in the intestines and thus produced a beneficial influence by preventing putrefaction. Those same ferments helped to regulate the functions of the intestine and kidneys, rendering valuable service to the entire body. One could take such carefully selected lactic ferments either in milk that had become acid under their influence or in the form of a powder. Tissier employed them in the treatment of the various intestinal troubles occurring at any age. To that end he advised the use of cultures of lactic microbes made in lactose peptone water. As putrefaction in the alimentary canal represented one of the causes of the general wear and tear of the human body it was only natural to suggest the method as means of combating it. That method might now be summed up in a few words—it consisted in the consumption of food-stuffs not contaminated with microbes or entozoa and in the introduction into the alimentary canal of an artificially cultivated bacterial flora, foremost among which were the lactic acid microbes.

LECTURE III.

Hygienic Measures against Syphilis.

SINCE it had been shown to be possible to guard both the skin and the alimentary canal against the attacks of insects and of entozoa conveying the virus of disease, one might imagine that it would be far easier to preserve oneself from the virus that man transmitted to his like. In fact flies and mosquitoes flitted freely round and it was often difficult to avoid or to seize them, whilst they could sting even through the clothes. The ova and larvae of intestinal worms found their way into the human body most frequently in food and drink. Yet, in spite of so many difficulties,

it was possible to eliminate the danger of contamination by the viruses which accompanied those lower animals. How, then, did it happen that man ran a greater risk of being infected by a virus existing in other men? Man was the principal source of contagion in tuberculosis, influenza and many other diseases of the respiratory organs. Man, again, carried about and communicated without intermediary the virus of venereal diseases. Since, then, both the organism which furnished and the organism which received the virus belonged to the human class, provided with the power of sense and of reasoning, it might appear simple and easy to avoid all danger. But in reality it was not so. Thus, according to Lenoir in Paris among 100 men at least from 13 to 16 infected individuals might be counted. It was mainly the young people who paid the greatest tribute to the disease. Soldiers and sailors, selected as they were, from amongst the hardiest of the nation, suffered from it most frequently. In the English army the number of days on which soldiers were off duty for syphilis had nearly trebled during the time from 1880 to 1897, whilst the number of men had only been doubled in that period. The greatest increase observed was in the number of secondary lesions. At Netley Hospital in 1897 about one-third of all the patients were suffering from venereal diseases, the number of which showed an increase of 15 per cent in 15 years.

It was useless to insist on the great frequency of syphilis among those persons in whom it was, if he might use the term, a professional disease, for everyone was sufficiently well informed on that head. But he thought it might be worth while to call attention to the great number of cases of nonvenereal syphilis. In some countries where the precepts of hygiene were hardly at all observed, the inhabitants of which lived in a most extraordinary promiscuity, infections were of very common occurrence. In such cases syphilis chiefly attacked the children. In that respect the syphilis of the rural population of Russia presented features of special interest. In Russia the promiscuity, the indigence, and, above all, the ignorance of the rural population, as well as the entire absence of sanitary measures, were the reasons for the ever-increasing spread of the disease. After penetrating into an obscure hamlet 30 or 60 miles away from the habitation of a medical man, the diseases of necessity established itself at every hearth and spared none. This terrible dissemination was not brought about by prostitutes but most commonly the little children, by their games and their caresses, sowed the infection broadcast. No one doubted the great frequency of syphilis, but there were many even among the medical profession who did not believe that the disease had a great influence on mortality. They said that it was amenable to treatment and that syphilitic persons might live long. It was quite true that syphilis by itself was not a fatal disease. In so-called malignant syphilis there evidently existed some secondary infection which became generalised and was fatal through septicæmia. Syphilis, however, was one of the most important causes in shortening human life and in bringing about mortal diseases.

Next to tuberculosis, syphilis played the most important role in the death-rate of persons whose lives had been insured—i.e., of the most vigorous part of the population. For a long time the dread of syphilis had been general and there were frequent cases in which victims of the disease had committed suicide. That fear was partly caused by the prospect of disfigurement by tertiary lesions and partly by the dread of becoming a source of infection to their fellow-creatures. Yet suitable treatment and hygienic precautions might to a great extent lessen that evil, for tertiary syphilis was rare amongst persons who had received proper treatment. It was the fear of the numerous diseases following in the train of syphilis which rendered life unbearable to the persons who had acquired it. It had been said that syphilis spread above all because the young folk were ignorant of the great danger that they were running into and it was urged that they should be taught; young boys and girls should be given some ideas on venereal diseases and into their later teaching should be introduced a chapter on that question. But the answer to those suggestions was that that reform would give rise to many objections without being sufficiently effective; for they all knew that, in spite of having been adequately warned, young medical men and students of medicine furnished a large proportion of victims. Ignorance was, therefore, not the only cause. As one of the strongest measures against syphilis early marriages had been recommended. Young people should, it was said, marry early so as to escape infection. But it was rarely possible for young men to marry before they had finished their course of studies. Now it was well known that syphilis was found only too often in scholars of the public and high schools as well as in young girls who had not come of age. Therefore one would have to advise the marriage of minors which was contrary to the principles of evolution. Professor Metchnikoff did not enter into a detailed discussion of the question but stated that to his mind the principle of marrying young as a safeguard against venereal infection could not be regarded as practicable. Nor did he go fully into the much-debated question of regulation or abolitionism in the fight against venereal diseases. Great Britain, proud and jealous of her liberties, pushed her liberalism even to the liberty of communicating contagious diseases. Abolitionism originated on English soil and had thence spread to other countries. There could be no doubt that the regulation of prostitution was a very imperfect thing. Nor could there be any doubt that the restriction of liberty was most disagreeable and vexatious. Nevertheless, until a new order of thing, regulation, even though partial and imperfect, was better than unlimited freedom. Assuredly it would be a great step forward if some methods were discovered which made regulation and all intervention of public authorities superfluous and thus insured mankind against syphilis by practical and simple means, dependent only on the will of those risking contagion. A mode of prevention of syphilis by means of vaccine, strictly speaking—i.e., by means of attenuated virus or by products of the virus—might possibly succeed but in the search for these products

the same difficulties were met with as in the preparation of an efficient serum.

In order to transform a virus into a vaccine by treating it with chemical substances or by subjecting it to physical agencies it was essential to possess larger quantities of it than were present in the syphilitic matter of chancres, of the inner organs, or the blood. They must therefore wait for the time when they could possess cultures of the syphilis spirillum. For the time being it was of no use entering into the question of antisymphilitic vaccines. Professor Metchnikoff detailed experiments showing that the syphilitic virus of *Macacus rhesus* was attenuated by several passages, so as at last to lose its virulence for that species of monkey and that the chimpanzee might strengthen that weakened virus. Since the zoological distance between the macacus and man was greater than that between the macacus and the chimpanzee one might suppose that the virus of the macacus would act on man differently from the chimpanzee. A chance occurrence had thrown some light on that problem. One of his laboratory assistants who took an active part in the experiments and who frequently handled the syphilis-infected monkeys one day noticed an ulcer on his lower lip which appeared suspicious to him. However, since the lesion was not accompanied by any swelling of the lymphatic glands and since it healed soon after its appearance it was forgotten for the time being. Not until a month later, when the assistant noticed on the same lip an ulcer similar to the first, did he think it necessary to apply for medical advice. However, since there was no swelling of the lymphatic glands and since the lesion on the lip appeared to be superficial and insignificant there was no reason to consider it as a syphilitic affection. In order to be quite sure a Javanese macacus was inoculated with some fluid drawn from the small ulcer. Great was the astonishment of all concerned when, four weeks after the inoculation, two most typical primary lesions were observed on the eyebrows of the macacus. All doubts ceased when those lesions of the monkey were found to be teeming with Schaudinn's spirilla. The assistant, made anxious by the discovery, consulted Fournier, the greatest living authority on syphilis, so as to ascertain whether mercurial treatment would be necessary. After a most thorough examination the eminent savant emphatically denied any such necessity. He found nothing to justify the diagnosis of syphilis and did not advise any treatment to be undertaken. The non-occurrence of any, even the slightest, suspicious symptoms in the space of six months justified the advice given. Clinically the assistant did not suffer from syphilis and yet the ulcer on his lip caused an absolutely characteristic primary lesion in the macacus. An explanation of this most contradictory result could only be given by assuming that the assistant had through some carelessness got his mouth infected with virus from a macacus which acted on him like a very attenuated virus. The hypothesis of a former syphilis, which might have explained the slightness of the lesion following an accidental re-infection, must be absolutely excluded, for the assistant never had syphilis. • •

After obtaining these data Professor Metchnikoff consented to the inoculation of a human being with virus passed through a macacus. From a number of persons who had repeatedly begged for the effect of antisyphilitic vaccination to be tried on them, an aged female was selected who asserted that she had never had syphilis and who offered herself of her own free will to an experiment of that kind. The most minute examination justified that assertion. The virus, which had been passed through a *Macacus sinicus*, was inoculated on three different parts of her forearm. After an incubation period of 12 days there appeared two small non-ulcerated pustules of a reddish-brown colour which resembled the pustules of secondary syphilis. After several weeks they disappeared, leaving only two pigmented spots. As in the case of the Assistant, neither any swelling of the lymphatic glands nor any other secondary lesion had been observed for over half a year. Such were the facts which led to the belief that the macaci might attenuate the syphilitic virus for their own species and for man. Those facts, of course, gave only a first indication and they were still far from possessing a method of antisyphilitic vaccination. Even if, at a latter stage, the existence of a vaccine against syphilis were conclusively proved, it could only be employed under very exceptional conditions. The attenuated and therefore living virus might, in fact, bring about most awkward complications if used on a large scale. They knew that some of the patients suffering from general paralysis and from tabes had only shown quite insignificant syphilitic lesions. Only to those persons who were exposed to the greatest risk of acquiring human syphilis might one propose vaccination with an attenuated virus. Those persons to benefit first from vaccination would have to be selected from among the beginners in prostitution. It was an established fact that those women only in exceptional cases escaped syphilis. As almost all of them were therefore condemned to acquire that disease vaccination would be an advantage for them as well as for the men having intercourse with them, but in practice the carrying out of that proposal involved serious difficulties, since the beginners in prostitution were very young and almost always minors.

According to the data collected by Fournier syphilitic infection in prostitutes began early—i.e., it was first observed about the fourteenth year. Syphilitic infection afterwards showed a speedy increase in frequency among those girls, especially between their fifteenth and their seventeenth year, and attained its maximum in the eighteenth year. Being minors and ignorant, those young prostitutes enjoyed full liberty, without the slightest constraint being put upon them. How could one persuade them to submit to be vaccinated against syphilis? The conditions for such vaccination were very different in the cases of family syphilis, of such frequent occurrence amongst the rural population of Russia. Children who were in danger of acquiring syphilis from their relatives and who passed the disease on to other children might more easily be subjected to vaccination. They had not the liberty to do as they liked and must obey their parents, and the chances were that the parents might more easily be

brought to understand the advantage of such measures. Vaccination with a virus so attenuated as to cause no secondary lesions would contribute materially to the lessening of the evil. The vaccine might be inoculated into those parts of the body which were least exposed to contact—e.g., the forearms. The possibility of the primary lesion causing infection would thus be reduced to a minimum, whilst the chances of contamination by a kiss or other dangerous contact with persons suffering from “plaques muqueuses” would be entirely removed.

Thanks to the facilities for studying that question by experiment on monkeys the solution of the problem of antisyphilitic vaccination need no more be regarded in the light of an unrealisable and Utopian scheme. Central laboratories for the preparation of vaccines would have to be founded in which attenuated vaccines could be maintained by alternate passage through anthropoid apes and lower monkeys. The latter, after having been proved to be free from tuberculosis by the tuberculin test, would furnish the necessary vaccines. Before, however, that method could be realised in practice they had yet a long distance to traverse. In the face of the difficulties at present besetting the plan of vaccination against primary and secondary syphilitic lesions it was only natural to seek for some other means of prophylaxis against that terrible disease. It being a generally established fact that mercury was a sovereign remedy for syphilis Behrman of Nurnberg six years ago suggested inunction of grey mercurial ointment as a preventive measure. Cohn of Berlin had suggested applying before the contact took place a salve made up of Ledermann's mercurial preparation and resorcin. After contact he advised washing with mercurial soap. To the same prophylactic end Guiard of Paris proposed washing with a solution of corrosive sublimate (1 in 4,000 or 5,000). He considered that if the prostitutes would but make use of that simple procedure syphilis would spread far less than it did at present. Guiard based his suggestion on the well-known therapeutic efficiency of mercury and its salts. In a long series of experiments carried out on chimpanzees, baboons, and macaci, mercurial inunction successfully prevented the outbreak of a primary lesion. The virus was inoculated either on the eyebrows or on the genital organs of the males and females. It was taken from a primary lesion in man and was thoroughly applied with a scarifier. The ointments employed were prepared either with metallic mercury or with calomel, white precipitate, or salicyl-arsenite of mercury. The substances were suspended in lanoline (1 in 3 or 1 in 4). Inunction was carried out for from four to five minutes and was begun between one and 20 hours after the inoculation. Even when applied 18½ hours after infection calomel salve still proved effective.

The conclusion from those experiments was that mercurial ointments might certainly be useful prophylactics against syphilis in all those cases where a contact had taken place. Instead of grey ointment, which caused much irritation in the skin and mucous membranes, the use of salves made up with non-irritating mercury salts should be recommended, such as

calomel. The results obtained on lower monkeys and on anthropoid apes agreed so well as to justify the conclusion that the same method might also serve for the prevention of syphilis in man. Nevertheless, to make sure, they decided to try an experiment on a man. They inoculated at his own request a young medical student, who had almost completed his studies, with virus from the chancres of two syphilitic men. An hour after the parts inoculated were rubbed for five minutes with an ointment which contained in 3 parts 1 part of calomel. The young man, although certainly free from any former syphilitic taint, developed no primary lesion. Four macacæ were treated with the same virus with which he was inoculated. Two of them, used as control animals, showed primary lesions 17 days later. A third macacus was rubbed with the calomel ointment an hour after inoculation of the virus and remained free from any syphilitic lesion, like the young man. The fourth macacus was rubbed with the ointment 20 hours after inoculation and showed a primary lesion after 39 days. That experiment, therefore, showed that man could with advantage employ mercurial ointments after every suspicious contact in order to preserve himself from syphilis. The study of that prophylactic method was not yet finished. Perhaps even a less prolonged inunction with ointments containing a lower percentage of mercurial salts might successfully prevent the development of the virus. There were not wanting persons who considered that every measure which might limit syphilis only served to encourage vice and that it would be better to let the disease spread freely. He did not discuss the morality of those who acquired that disease by sexual intercourse, but were not many victims absolutely innocent and had they not a right to be protected?

Persons who looked upon the prophylaxis of syphilis as immoral should apply the same reasoning to the use of antiseptics in midwifery because it facilitated criminal abortion. And if that paradox were carried through to the bitter end one might oppose not only the prophylaxis but also any treatment of syphilis, for men of genius, tainted with syphilis, had produced remarkable work, in the creation of which the cerebral excitement caused by the disease had doubtless played an important part. No considerations of a moralising tendency should retard the prevention of so disastrous a calamity as syphilis. True morality should rather contribute as much as possible to the prophylaxis of that and many other diseases. Superannuated ideas, which had become firmly rooted, condemned the care one took of one's own health. One might care for others but it was wrong to take precautions for oneself. Ruined buildings and tattered clothing might appear more beautiful from an artist's point of view than complete houses and clean clothing, yet civilisation tended to replace the former by the latter. In questions of health morality should not attempt to lead hygiene but should rather follow her. Even in the religions of old hygienic precepts occupied an important place. With how much more reason ought not modern hygiene, having become an exact and infinitely more precise science than it was formerly, to reign supreme over all doctrines of morality.—*The Lancet*, June 2 and 9, 1906.

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TREATMENT OF WHOOPING COUGH.

By DR. PAUL CHIRON, M.D.

Aconitum Nap.—At the beginning of the whooping cough, at the period of invasion. Cough dry, wheezing, incessant, each time that the child coughs, he carries his hands to the throat in grasping it. High fever, dry skin. This medicine is exclusively directed to the inflammatory element and the dry cough. The indication of Aconite is rapid and short duration of the whooping cough, but in return it is often reproduced. It can recur all the time that the inflammatory symptoms tend to re-appear and always take a marked predominance.

Ambra.—Cough increases when there are enough persons; cough hollow, spasmodic, barking, worse on talking or in bed, with high sound. Frequent eructations. Hoarseness. Pressure on the stomach and hypochondrium. Tickling in the chest. Acidity of urine. Fœtid breath. Prostration, anxiety, insomnia. Excoriation in the throat and trachea. Wheezing of the trachea during inspiration.

Anacardium.—Chagrin can cause the proxysmal cough; dyspnoea. Cough entirely shakes the patient; paroxysms of cough for three or four hours, excited by tickling in the throat. During the night without expectoration; during the day expectoration of mucus white and insipid or yellow, purulent and

bitter. Cough increased on speaking, or after eating (not during the time of taking food). Vomiting of food relieves. Enough of sneezing. After the cough yawning and somnolence. This medicine is almost entirely indicated for children who have bad character of the cough.

Ammon. Brom.—Cough comes suddenly. Cough dry, spasmodic, intensely re-appearing one after the other, and sometimes with moments of interval. *Cough sometimes continues during all hours*, particularly at night, being in bed. Sensation of irritation and tickling with heat and burning.

Angustura.—Violent cough, excited by profound irritation in the trachea. In the morning and during the day abundant expectoration of yellow mucus. Hoarseness from accumulation of very tenacious mucus in the larynx. Respiration intermittent, spasmodic; intense dyspnoea.

Antimonium Crudum.—Whooping cough with cough which gradually becomes more and more feeble, as if the pharynx will be closed. Without expectoration at night; during the morning expectoration of red, tenacious mucus, vomiting of drinks only. Involuntary urination. Feebleness or loss of voice. The entire body is shaken. Aggravation in hot room, by the sun and heat of fire. Desire for fruits and sour things.

Antimonium Tart.—Whooping cough provoked all the time, the child is angry or takes food. The cough progresses to vomiting of mucus and food.

Arnica.—Fit of coughing excited by sensation of repetition or sore in the trachea, bronchi and larynx. Cough generally dry, often with expectoration of frothy blood, mixed with clotted blood or glairy mucus of bad taste which the patient swallows down. Cough worse at night. Coughs until blood flows from the nose and mouth. The child cries during and after the fit; he places his hands upon the chest to sustain him during the cough. Swelling and redness of the left cheek with heat of the head and coldness of the feet. The child feels a painful sensation in all the parts of the body as if he was bruised. Cough during the day, but more frequent and more

intense in the evening until midnight. Cough aggravated by anger, movement, heat, and after drinking. Intercostal neuralgia.

Arsenicum.—Whooping cough whose duration is interminable, either it had been neglected or the treatment had been fruitless. Great prostration. Coldness of the surface of the body. The face is pale and takes the colour of waxy yellow. Each attack of cough is immediately followed by diarrhoea stool.

Asafætida.—Cough hoarse, resonating, short, with sensation of asthma in the trachea. Oppression and burning in the sternum with frequent inclination to cough. The chest seems as if compressed by a heavy weight which prevents pulmonary expansion. Slow and small pulse.

Badiaga.—Serious access of spasmodic cough with expulsion from the bronchi of yellow and viscous mucus, which is often violently thrown out of the mouth. It terminates by sneezing or fluent coryza. Aggravation after midday or in the evening with headache, pain in the posterior part of the pupil, light blow in the ears. Face pale, of ashy colour; pains, acute lancinating in the chest, principally under the scapulae, painful sensibility of the muscles and skins of all the body.

Baryta Carb.—Whooping cough of old men or atrophied children with roughness in the throat and sensation of tickling in the pit of the stomach. Without expectoration at night or in the morning; difficult expectoration of mucus, yellowish, tenacious, as like starch often foul. Aggravation when he is with humid feet or when he sleeps in a cold chamber, lying on the left side. Swelling and suppuration of the tonsils after slight cold. Loss of voice. The chest is obstructed by mucus. Drowsiness and chilliness day and night.

Belladonna.—Cough barking, dry, convulsive especially at night, with profuse bleeding from the nose, redness of the face and injection of the conjunctiva; signs manifest with congestion of the brain. The attack is announced by a disagreeable sensation in the stomach. Little or no expulsion of mucus which is never without pain. Waking at midnight by an

attack of cough which lasts sometimes an hour. Redness of the throat and palate which are painful to touch or during deglutition. Continued fever.

The patient feels the fits of coughing to come and the fits terminate by those of sneezing. Without the fits, the pulse is frequent and full; the palms of the hands are hot; the appearance is more or less red, sleep is agitated; without speaking the fits are interrupted very often.

Bromium.—Cough crampy, harsh, barking or hissing, caused by tickling in the throat, as if he has respired the vapours of sulphur. Without expectoration. Aggravation by movement, deep inspiration, and the fume of tobacco. Depression and melancholia. Sensation of bruise in the throat. Abundance of insipid mucus in the mouth. Dyspnoea, difficulty of respiration, shivering.

Bryonia.—The child never coughs so much as after eating or drinking and the cough is relieved by vomiting of food. Bryonia may be necessary all the time when complication of the lung and pleura will exist. Shooting pain in the chest, during cough and deep respiration in the interval of the fits.

Calcarea Carb.—Period of dentition. Fontanels largely open. The fits of coughing always become less after coughing. Tracheal rhonchus.

Capsicum.—Cough barking, frequent and short, particularly in the evening; after being in bed; itching and tickling in the throat. On coughing pain in the throat as if an abscess would burst. Head seems to burst on coughing. Constant tingling in the throat bringing dry and convulsive cough.

Carbo Animalis.—Cough with hoarseness and suffocation, caused by dryness and excoriation in the larynx and trachea. At night without expectoration; during the day expectoration grayish, greenish, sometimes purulent, of irritating and sour taste. Sensation as if the head is tossed about; epistaxis; the abdomen as if shaken. Asthmatic respiration. In the morning hoarseness, during the night aphonia. Sensation of coldness in the chest.

Carbo Veg.—It can be given at all times when the cough has characteristic symptoms with aggravation at night, pain in the throat on swallowing, shooting pain in the head and chest, or in the more advanced period of the disease, in the case of obstinate vomiting, if the cough has lost its frequency or intensity. When after each fit of cough the child resembles as if exhausted, with heat of the head and face, and the skin almost cyanosed. Aggravation more strongly in the evening and before midnight, having the concomitant symptoms of coryza, sneezing, lachrymation, and hoarseness.

Castanea Vesca.—During the day, light pain in the middle of the right lung. Great lassitude.

Causticum.—Cough stubborn, hollow, short with hoarseness in the morning. Cough excited by tickling in the throat and by the presence of adherent mucus difficult to detach and the infant is obliged to swallow for want of knowledge to spit. Aggravation by cold air and remaining in a current of air (a draught of cold water calms the cough). Nasal catarrh dry at night, fluent during the day. Agitation, drowsiness in the day, insomnia at night. Constant chilliness. Abundant sweat in copious air. Amelioration by food. Involuntary emission of urine during cough. It is applicable to thin children. *Causticum* takes away the cough and restores at the same time the constitution.

Cepa.—Cough hoarse, dry, resonating, spasmodic which causes splitting and smarting pain in the larynx. The pain is so intense that the patient tries to obstruct the cough. Aggravation by remaining in a hot chamber and in bed. Amelioration by copious air. Abundant coryza fluent and acrid with watering of the eyes. Constant sneezing; weakness in the hip and loins, lassitude. Autumnal epidemics.

Cerium Oxalicum.—Vomiting and epistaxis at each fit of cough.

Chamomilla.—It is applicable to children. Cough dry, especially nocturnal. Agitation during the day, the child could not remain in one place, it wants to be carried in the arm all

the time, it appears to him besides that it causes relief; at night frequent wakings with cries, moanings, anger and at the access of anger cough is immediately provoked. Fever especially at night, one cheek is more red than the other. Vomiting, flatulent colic with swelling of the abdomen; diarrhoea often at night with slimy stool, green and simply mucus. Excessive excitement and irritation of the nervous system, so that it makes the temper of the child entirely insupportable. To children of more advanced age, with great sensibility to pain, Chamomilla is called for.

Chelidonium Majus.—Cough spasmodic violent, excited by tickling in the larynx, by sensation of dust in the trachea, throat and the posterior part of the sternum, which is not alleviated by the cough, with great effort bringing tears in the eyes. The attack lasts long, succeeded by a short interval and awakens the infant when he is profoundly asleep. Spasms of the glottis and mucus expectoration. Anxiety, difficult expectoration. Stools are light coloured or perfectly white or bright yellow; rapid emaciation. Aggravation of cough in the morning, and in copious air; amelioration by keeping in rooms.

China.—Infant grows weak by a long persistent whooping cough; nervous erethism with adynamia; abundant mucus in the throat and chest; loss of appetite from exhaustion. (*Chin. Ars.*)

Cina.—Violent paroxysms occurring frequently, excited by a sensation coming from the bottom of the throat by a quantity of mucus adherent to the throat. In the morning without expectoration; in the evening expectoration of a white, glairy substance without taste, detaching with difficulty. In obstinate children with black hair and eyes. *Before the fit*, voracious appetite, pain in the stomach, mucous diarrhoea, itching of the anus, and fluent nasal catarrh; *during the fit*, loss of consciousness, pale face, cold sweat on the front of the head, bleeding from the nose and mouth, tonic spasm of the legs, suffocation and rigidity of the body; *after the fit*,

fretting when he is touched; vomiting of food, mucus and bile; difficult deglutition of liquids; gurgling in the abdomen. The thorax appears very narrow; insomnia with cries and weepings. After the coughs a gurgling bruit is often heard at the pit of the stomach as if liquid is being poured into a bottle. Attacks of sneezing, moaning, gnashing of teeth; the child has fear to speak and move, apprehending that a fit of cough may recommence. Obstinate children with black hair and eyes (*Belladonna*); children tranquil, mild, with blond hair and blue eyes.

Coccinella.—At the end of the cough. The patient expectorates a quantity of flowing, albuminous mucus; sensation of coldness in the buccal cavity.

Coccus Cacti.—Cough dry, short, with sneezing all the day. Cough violent, very spasmodic with efforts to vomit and abundant expectoration of thick, viscous mucus resembling albumen. The expectoration rather comes at night, the cough being more ordinarily dry during the day. Nocturnal cough which awakens and does not allow more sleep. Tickling in the upper part of the larynx; fit always comes at 11 p.m., with lively colouration of the appearance and congestion of the brain. Urine clear and abundant. Children become very nervous. Cough is much prolonged after the whooping cough.

Coffea.—An intercurrent remedy can render service in whooping cough to children very irritable and nervous, tormented by agitation and insomnia without any trouble to the digestive function.

Conium Mac.—It is of great usefulness to the scrofulous. The fits of cough come more particularly at night and are generally followed by vomiting bringing mucus with food. Children complain of pain in the abdomen on coughing.

Corallium Rubrum.—The fits are so violent that children lose their respiration and their appearance becomes purple and black. Cough spasmodic, short and sudden. Suffocation before the attack and great exhaustion afterwards; particularly indicated for aggravation at the last part of the night and in the morning.

Larynx and trachea are more obstructed than the chest. Mucus in the throat and chest is perceptible. The least change of weather brings cough to the patient. Loss of appetite and thirst. Vomiting after the fit of cough of a quantity of viscous and stringy mucus.

Crocus Sativus.—Whooping cough complicated with chorea; paroxysms in the morning accompanied by ludicrous gestures and continuous caresses followed by an hour of excessive excitement. The child strikes, bites and becomes ungovernable. At last he sleeps; after the resting sleep he wakes by crying and is attended by repetition of all the former scene. Cough violent, dry, exhausting, relieved by placing the hand on the pit of the stomach.

Crotalus.—Debilitated infant. Weakness of the heart. After fit, the appearance is pale, blue, and only slowly reappears the natural colour. Attack followed by swelling of the face and hæmorrhagic spots, bleeding from the nose, or abundant frothy, stringy, and bloody expectoration.

Cuprum Aceticum.—Convulsions occurring at the time of the whooping cough, spasms of the flexors predominating. Cough with repeated and prolonged attacks of suffocation, during which the child is stiff and loses consciousness. Spasmodic pressing of the chest, convulsion in the place of cough and when the convulsion ceases the cough comes on. Loss of consciousness after each fit of cough. Obstruction of respiration during the cough. Bluish appearance of the face and lips. After cough vomiting, mucous rales or wheezing in the chest, except at the time of the convulsive spasms. Relief by draughts of cold water. After the attack, the child shows desire to drink cold water. Drowsiness between the attacks.

Daphne Ind.—Cough with vomiting and yellowish, frothy, expectoration, sometimes streaked with blood. Fatiguing cough which prevents sleep.

Digitalis.—Cough hollow, deep, spasmodic, caused by a sensation of roughness or excoriation in the palate, mouth and trachea. Without expectoration in the morning; in the

evening expectoration of mucous rare, resembling jelly. Aggravation at midnight and in the morning, by taking cold drinks and food, by walking, conversation and sitting. Pulse very slow, accelerated by least movement. Chilliness with heat and redness of the face. Heat with cold sweat on the front part of the head; one hand is hot and the other cold; desire for bitter foods, vomiting of food at the first sight, then of bile. Great prostration after the attack.

Droca Pal.—Cough day and night with vomiting. Dyspnoea, suffocating cough; hoarseness and excoriation of the larynx; takes cold easily. This medicine is often indicated after *Carbo Veg.*

Drosera.—Cough short, rapid, comes on suddenly by violent fits which are repeated very frequently with signs of suffocation. Pain at the lower part of the sides on coughing, the child carries the hand to the painful part. Shrill bruit characteristic of the whooping cough during inspiration and after each fit of cough; vomiting of food at the first sight and after food, of stringy mucus. The attack of cough only ceases when the child spits out or vomits a small quantity of mucus. Bleeding from the nose and mouth. Little or no fever, if he has fever, it is shown by the regular attack of chilliness and heat. Thirst after shivering. Hot sweat at night. Feet purple only during the attack of cough. The cough exasperates him by the heat of the bed; the attacks are more frequent coming after midnight. Cough comes most frequently in the case of *Drosera*, after repeated vomitings, the sputums are streaked with blood. Without appetite; constipation, and moroseness.

Dulcamara.—Whooping cough excited by abundant secretion of mucus in the larynx and trachea followed by an easy expectoration of mucus without taste and often of red blood. Hoarseness. The medicine is indicated when it is pretty certain that the invasion has been caused by moist weather and after having taken cold.

Eupatorium Perf.—Cough hoarse, bursting, tearing, excited by painful sensation of excoriation and of heat in the bronchi, without expectoration. The patient supports his chest with his hands when he coughs. Pain and breaking sensation of the whole body. Aggravation at night and by movement. (*Arnica*).

Euphrasia.—Suffocating cough with abundant tears and fluent coryza. Expectoration in the morning only of insipid mucus as of water, difficult to detach. Cough only during the day, never at night. Aggravation in the evening, when he is awake, by wind. Acrid and watery nature of all the secretions.

Ferrum Met.—Spasmodic cough. Without expectoration at night, in the morning expectoration streaked with blood, purulent, glairy, sometimes frothy and of sweetish, putrid or sourish taste. Aggravation at night up to midnight. During this period, the mucus remains adherent, but during the day and during movement it is easily detached. Indicated to drunkards, those who abused drinking of tea, or those persons who have taken enough of *China*. Cough spasmodic, bursting, after each meal and followed by vomiting of food.

Helleborus Nig.—With regard to whooping cough, when come the superadded symptoms of cerebral congestion characterised by sleep, with half-opened eyes; more particularly indicated at the time of dentition or to feeble and delicate constitutions.

Hepar Sulph.—Croupous cough mixed with whooping cough; easy cough, hoarse voice. Abundant hæmorrhage from the nose and mouth after each cough, when the cough is dry he feels its approach. The cough is increased in the morning, cough with menaces of suffocation. After the fit, vomiting and the child cries very much.

Hydrocyanic Ac.—Violent paroxysms of cough or cough frequently excited by sensation of pricking which commences in the larynx and extends to the whole of trachea, accompanied by dryness of the mouth and larynx. Respiration slow, feeble, and anxious with enough of sonorous rales.

Hyoscyamus.—The child can not lie down without the cough coming immediately, it never increases and the cough ceases

as soon as he sits up. Cough dry, spasmodic, attack violent, especially at night, with difficult respiration, threatenings of suffocation, fixed look, and injected appearance. Tremulousness and coldness of the hands and feet. Convulsions.

Ignatia.—Depressing emotions. Cough hollow, spasmodic, excited at night by an irritation in the supra-sternal fossa, and in the morning by tickling just over the epigastrium, generally without expectoration. Pricking pain in the throat is relieved by taking food; sensation of emptiness and feebleness in the epigastrium; dyspnoea and crises of suffocation; inspiration slow, expiration rapid; the chest appears very small; spasmodic yawning.

Iodium.—Spasmodic cough excited by an insupportable tickling in the larynx and supra-sternal fossa. The morning is without expectoration, at night expectoration of mucus abundant, tenacious, yellow or bloody. Aggravation, by heat, walking, conversation and ascending. Vomiting of food follows after each meal; canine hunger; epigastric pain. Emaciation, induration of glands; skin dry and dirty.

Ipecac.—Dry cough accompanied by sufficient anguish of suffocation. At the time of the fit suffocation, the body stiffens and the appearance is reddened or becomes violaceous. At each inspiration it appears that he will get a new fit. Bleeding from the nose. Enough mucous rales are heard in the bronchi. Aggravation after midnight up to the morning. Tendency to diarrhoea, stools soft or diarrhoeaic at night.

Kali Bich.—Cough suffocating, dry, barking, increases in the morning and after food. Generally amelioration follows after expectoration of mucus viscous, stringy, thick, difficult to detach and which adheres to the throat, in the interior of the mouth and at the lips.

Kali carb.—Spasmodic cough with attack of suffocation. The fits come especially after midnight towards 3 A.M., in the morning, or at the commencement of the day, ameliorated by vomiting of food taken in the evening. Little expectoration. Coldness and sensation of emptiness in the abdomen. Diarrhoea.

constipation owing to inertia of the rectum; dry of the nose; wheezing respiration; tingling and spasms in the chest with sensation of emptiness; swelling of the upper eye lid.

Kali Iod.—Whooping cough becoming chronic. Wasted children. Aqueous diarrhoea, light coloured.

Kreosotum.—Cough hollow, wheezing, spasmodic, occasioned by a sensation of roughness, excoriation and tickling in the chest and throat without expectoration. Bitter taste of food not perceived till the time of deglutition; nausea, efforts to vomit during pregnancy; sensation of bursting in the abdomen, great desire for sleep; profound sleep.

Lachesis.—Cough spasmodic, bursting, occasioned by a sensation of tickling in the stomach; difficult expectoration of little aqueous mucus during the day which he swallows; the patient has tendency to take deep inspiration; sensation of flapping of wings around the larynx; hoarseness and aphonia; livid swelling of hands and feet. The child does not awake, otherwise he will be attacked by a fit of cough; he is feeble and presents all the characters of great prostration.

Lactuca.—Great constriction of the chest as if there is a heavy weight on it; dyspnoea at night which prevents the patient from sleeping. Cough spasmodic, obstinate, shaking the chest and abdomen. Dry cough with dryness of the throat, and tickling in the pharynx.

Asaurocerasus.—Adynamic state; when paralysis of the lungs threatens at the last period.

Ledum Palustre.—Cough spasmodic, hollow and disturbing. Cough preceded by obstruction of respiration. After the cough, the child staggers as if the head was attacked by vertigo. Spasmodic contractions of the diaphragm which makes the respiration more frequent and analogous to that which accompanies violent sobs. During the cough he sometimes expectorates fresh red blood. Attack commences with tetanic stiffness and bending of the body on the back (opisthotonus) and followed by a very violent fit of cough with expectoration of bright, frothy blood.

Isotria.—Violent torturing cough comes by an attack of long duration with expectoration of stringy mucus which adheres to the pharynx; excessive dyspnoea. Sensation as if there is a great quantity of mucus in the larynx; nausea and profuse sweat.

* *Lycopodium.*—Cough with expectoration during the day of an abundant quantity of purulent and bloody mucus, of salty taste and irritant odour. Yellow colour with circumscribed redness of the cheeks. Heaviness of the stomach; vomiting of food and bile; distension of abdomen; constipation; flatulence; asthma; rhonchus in the chest; threatening paralysis of the lungs.

Magnesia Mur.—A grievous complication of whooping cough is the want of appetite, because the infant being deprived of nourishment becomes weak and presents each day less power of resistance to the malady. If the absolute want of appetite is accompanied by clean tongue, no medicine is more preferable than *Magnesia Mur.* in the convulsive period.

Magnesia Phos.—Violent attack of spasmodic cough during which the face becomes blue and turgid.

Mephitis.—Attack of cough during day and night and general aggravation at night. Cough purely spasmodic. Bronchial rhonchus during the cough. Mucous rales at the upper part of the lungs. Sensation of excoriation in the chest; vomiting after each fit. Heat, excoriation in the fauces, hoarseness. Slight fever during the day, stronger at night. Eyes injected with blood.

Mercurius Sol.—Nocturnal cough, with abundant sweat at night. The cough has this peculiarity that two fits ordinarily follow one after another with a short interval, the child being perfectly calm during the interval. Profuse bleeding from the nose during cough and each time that there is an attack of cough. Fluent coryza and running from the nose of watery and acrid matter. Great nervous susceptibility; symptoms announce the presence of something in the intestines. During

the attack of cough, green diarrhoea or of epimela which escapes involuntarily.

Mentruus.—When the attacks are especially frequent and intense, at night in bed; when the child eats or drinks any thing hot. (Dig. after drinking cold water); cough producing vomiting of food. To scrofulous infants who have engorged glands or it is better applicable with diseases of bones.

Moschus.—At the last period, when the expectoration almost ceases. Spasmodic cough with vertigo and constriction of the chest and trachea; one cheek is hot without redness and the other red without heat; speechlessness; diarrhoeic stool at night, beyond that the patient does not know; drowsiness, coma.

Naphthaline.—Spasmodic cough excessively violent, attack during the whole day.

Natrum Mur.—Whooping cough accompanying intermittent fever with spasmodic cough; excessive headache, increasing during heat so that it becomes intolerable. Violent shock in the head. Watering of the eyes. Tears flow on the face each time that he coughs; dirty yellow colour. Painful sensation of dryness in the larynx and trachea; hoarseness, pain in the cervical glands.

Niccolum.—Dry and painful cough; great dyspnoea; the child desires to support his head and holds during the cough; little or no expectoration; great hoarseness, he could speak at the height of his voice.

Nitric Ac.—Cough spasmodic, bursting, barking, caused by tickling in the larynx and epigastrium. Expectoration in the day of black blood mixed with clots or yellowish acrid pus, and of irritant odour; foul breath; pricking in the scapula and sacral region; sensation of pricking as if a piece of wood presses on all the affected parts. Irritant nocturnal sweat having the odour of urine; emaciation; salivation.

Nux Vomica.—Dry cough comes after midnight till the morning with vomiting, anxiety, attack of suffocation and the face strongly coloured. Haemorrhage from the nose and mouth.

Constipation. During the attack pain in the umbilicus as if it will be torn into pieces.

Opium.—Symptoms of cerebral congestion. Stupor. Hot perspiration, irregular respiration with great anxiety. Constipation.

Phosphorus.—Hoarseness, almost total loss of voice by the effect of cough. Pulmonary complication; mucous rales, short respiration, great weakness. Drowsiness, thirst and diarrhoea.

Pulsatilla.—Cough very easy at the beginning, can be especially heard at night. Cough is accompanied by tears, sneezing, fluent coryza without acridity, with loss of taste and odour. Slight hoarseness and tendency to vomiting after cough. Vomiting of food or only mucus. Sometimes diarrhoea especially at night. Heat of the body with cold extremities. Absence of thirst, constant chilliness more marked at night.

Rumex Crisp.—Cough dry, bursting, incessant, very fatiguing caused by tickling in the supra-sternal fossa. Sensation as if a feather is put here and in the bronchi, following the respiratory movements, making tickling which provokes cough. Aggravation by inhalation of cold air or pressure upon the trachea in the supra-sternal fossa; hoarseness; unsteady voice fluent coryza. Sensation of pricking in the upper part of the left lung.

Sambucus.—Cough hollow, dull, suffocating, excited by spasm of the chest. At night without expectoration; in the day expectoration of mucus rare, difficult to detach, having sweetish putrid or saltish taste; aggravation towards midnight, by repose cold and dry air, when he is in bed with his head low; dry heat during sleep, which comes still more forcibly on awakening.

Sanguinaria.—Cough dry in the morning on awakening and it never ceases till the patient is put right with pain in the chest relieved by emission of gas, dyspnoea after midday till the night; nocturnal diarrhoea.

(To be Concluded).

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EDITOR'S NOTES

Typhoid Test.

The following is from the *North American Journal of Medicine*, June, 1906 :

"A 1-1000 aqueous solution of methylene blue may be used in testing urine and the results appear to be as reliable as the familiar Diazo test. The reaction may be found as early as the second or third day and commonly continues during the disease. To a test-tube two-thirds full of urine add five or six drops of the methylene blue, which becomes emerald green if the reaction be positive ; bluish green if negative."

Many tests to diagnose the typhoid fever have come to the field. If this urine test proves true, then it is a step in advance. It is generally not practicable to get blood from private patients.

Homœopathy in Chicago.

The *British Medical Journal* of June 16th writes of the waning influence of homœopathy thus :

"CHICAGO, as we learn from the *Chicago Medical Recorder*, has for many years been the chief centre of homœopathy not only in the United States, but in the world. More students, perhaps, have graduated in homœopathy in that city than in the rest of the world combined. Our contemporary, however, sees signs of a decline in the sect. The two principal schools have within the last two years become amalgamated and the fusion is generally attributed to reduced attendance at both. It would appear, moreover, that the education given in the sectarian institution is markedly inferior to that of the regular schools. Owing to the policy adopted by the Chicago Medical Society in admitting professed followers of Hahnemann to membership simply on their agreeing not to practise any exclusive line of treatment, there has already been a large secession from the ranks of homœopathy. Homœopathy thrived as long as it was persecuted ; toleration has reduced its adherents to their proper relation to the general body of the profession. The *Recorder* ends with the expression of a belief that 'the days of homœopathy are probably numbered.'"

It is all ignorance to speak of the waning influence of homœopathy in Chicago or America. *Le Similia est mort ! Vive le Similia.*

Remedies in Mumps.

The North American Journal of Homœopathy for June, indicates the use of the following remedies in mumps :

"The chief remedies are belladonna, mercurius, and rhus. In testicular complications ; pulsatilla, aurum, clematis, conium ; in ovarian metastasis : apis, pulsatilla, lachesis.

Aconite is useful only in the beginning for the aconitum prodromal febrile syndrome—dry, hot skin ; hard, rapid pulse, unrest, etc.

Belladonna.—Much oftener useful, especially if the mumps be right-sided, with great heat and shining redness of the part. Sharp, sudden shooting or sticking pains are prominent and the affected part is exceedingly painful to the touch. The mouth is dry and swallowing difficult. There is also congestion to the head with oversensitivity of vision and hearing.

Mercurius.—Of value with boring pain, < at night, great sensitiveness of the affected glands, offensive odor from the mouth, suppuration threatening. As soon as suppurative symptoms appear, mercury is the best remedy.

Rhus.—Extensive swelling, leaving indentation from pressure by the fingers. Dark red swelling or tendency to a rosy red inflammation. Especially useful in a secondary adenitis after scarlatina.

Lachesis.—Left-sided mumps, with a purple induration of the part. The patient is < after sleep ; also in left ovarian metastasis.

Pulsatilla.—Notably in double mumps ; greatest value in orchitis or ovaritis.

Conium.—Where the swelling is markedly hard and long-lasting.

Pilocarpinum muriaticum 3 was commended by Dr. Burnett, as a sort of specific in mumps."

Stomatitis Remedies.

The North American Journal of Medicine for June, writes of the remedies for stomatitis thus :

"Kali chloricum, 3x trit. 0.15 ctgms. every hour is the chief remedy, and is used in swelling of the salivary glands without much secretion and with tendency to ulceration of the mucosa.

Belladonna 3x, every 4 hrs. with extreme dryness of the mouth, heat, redness and burning.

Borax 1x, 0.15 ctgma. hourly if the mouth is hot and dry, and the affection be localized in the mucosa of the cheeks, with aphthous tendencies.

Mercurius sol. 3 every 4 hrs. The classic remedy in stomatitis with pyralism, spongy, white, swollen gums, swollen cervical glands and green or dark green diarrhoea.

Muriatic acid 6, every 4 hrs. Burning in the mouth; ulcers of bluish base and ill-defined borders, the mucosa denuded of epithelia, and swelling of the cervical glands.

Nitric acid 6. The symptoms resemble mercury, but there are excoriations in the corners of the mouth. If there be a tendency to gangrene—arsenicum or lachesis.

Arum tri. 12. (When given in lower dilution it should be freshly prepared.) The buccal cavity is covered with malodorous mucus.

Rheum 3.—If the stomatitis be mercurial in origin—also nitric acid and hepar.

Argentum nitricum 6.—In nervous, dyspeptic individuals."

Lodging-house Keepers and Infectious Diseases.

The Lancet of June 30, says :

"A claim brought by a young lady musician against a lodging-house keeper at Scarborough to recover her luggage was met recently by a counter-claim of a very unreasonable character, which fortunately was not allowed to succeed. The plaintiff took rooms with a view to occupy them during an engagement at a local place of entertainment and three days afterwards learnt that there was a case of measles in the house, when she naturally left at once. The landlady, however, refused to give up her lodger's boxes and when the latter brought her action to recover them counter-claimed for payment for the lodgings in lieu of notice. His honour Judge RAIKES made short work of the landlady's case, pointing out that a common misfortune had put an end to the contract, a misfortune of which lodging-house keepers must run the risk and of which they must take the consequences when it occurred. In other words, an event and the control of the parties had made it impossible for the lodging-house keeper to carry out her bargain by supplying a lodging of such a character as the plaintiff must be taken to have bargained for and the plaintiff could not be made to pay for one which might render her liable to the infection of measles. The judgment was for £4, to be reduced to 1s. on the return of the box, and for 8s. 8d. due, in respect of the accommodation which the plaintiff actually enjoyed, the costs in each instance to follow the judgment."

The previous occurrence of any infectious disease in a house should be made known to the tenant who is about to engage rooms or the

whole house. The want of service of the notice on the part of the landlord is sufficient to annul any engagement by the tenant. In India the law is very lax. We know that a few tenants were harassed in Calcutta for occupying houses without the knowledge that cases of plague previously occurred in those houses. Even the District Plague Officers did not come to their rescue though their help was sought. To our knowledge such a case happened in a house in Blochmann street. The lady tenant was harassed beyond measure and the Small Cause Court did nothing to afford relief. We hope that the above mentioned case will form as a precedent to such occurrences.

It is not possible for the tenant to know whether the house is infected unless the tenant takes residence for a few days. The ignorance of the fact on the part of the tenant rests on the secrecy observed by the owner of the premises. For the studious mischief not to inform the tenant of the fact of previous infection, the tenant gains the right to quit the house as soon as possible. The owner can only get the rent for the period which was occupied by the tenant. If it be the right of the tenant to leave an unsafe house, that unsafety will, surely, be extended to infectious dwellings.

A case of Eruption of the Skin from Mercuric Chloride.

The Lancet, June 30, thus describes the eruption after application of Mercuric chloride :

"THE patient whose case is here described was an Italian girl, 20 years old, very robust, and of a healthy constitution. She suffered from a subaxillary abscess which I incised. For the disinfection of the skin I used, in accordance with my constant practice, washing with a solution of mercuric chloride of strength 1 in 1000 and I employed less than one litre of the solution. The local treatment was very simple, sterilised gauze wet with the same solution being in contact with the skin and covered with dry sterilised cotton wool and a bandage. When I saw the patient on the next day I found that the skin of the entire axilla, of the subaxillary region, and of a portion of the adjacent lateral anterior and posterior regions of the thorax was of a scarlet colour and dotted all over with small vesicles containing pus. The girl complained of a sensation of smarting and severe itching. The lesion was very similar to a burn of the first degree. The affected region corresponded exactly to the area which had been in contact with the corrosive sublimate even for a brief

pus. The same lesion also existed on part of the anterior and posterior aspect of the axillary folds where gauze sterilised and wetted with the solution of corrosive sublimate had been applied. The girl told me that several years ago she had suffered in the same way from the use of a solution of mercuric chloride employed by a medical man and that he was surprised at the effect produced. Three days afterwards the abscess was almost healed but over the whole of the affected surface there was subsequent exudation of a serous fluid mixed with a very small quantity of pus. From the first appearance of the lesion I made no further use of sublimate or any other disinfectant. I only washed the parts every day with sterilised water and cotton wool and then covered them with sterilised gauze and cotton wool. Powdered bismuth subnitrate was also sprinkled upon the skin and sterilised gauze and cotton wool were applied. The lesion disappeared in a few days."

The eruption of Mercuric Chloride is another revelation to the Old School. It is another wonder that it is getting so many discoveries in a year. *Light more light! Light more light!*

* Pulmonary Tuberculosis in Calcutta.

The Lancet, June 30, writes :

"CONTINUED observation and research confirm Professor HIRSON'S statement that pulmonary tuberculosis is a disease of all times and all countries. It is true that in certain regions of the earth the disease is all but absent, such as in the Arctic regions, deserts, and in places situated at high altitudes—that is to say, as Dr. A. RANSOME has pointed out, just where the population is most scanty. Wherever population is dense there will the death-rate from pulmonary tuberculosis be found to be high. The lack and neglect of ordinary hygienic precautions, as is well known, considerably encourage the prevalence of disease. No race is exempt, although some writers have stated that Jews are less afflicted with tuberculosis than are Christians. The evidence on this point, however, is conflicting and as Dr. PENNY KIDD has stated, there is reason to believe that this favourable estimate applies only to the well-to-do members of the community. Further investigation must decide whether the alleged immunity exists or not. Some nationalities, on the other hand, seem to be more prone to be attacked than others. Professor HIRSON states that among the Kanakas—the natives of New Caledonia—two-fifths of the total mortality is due to pulmonary tuberculosis. Some of the other black races also readily acquire the disease. . . .

Some of the above points are well exemplified by a report recently issued on "Phthisis in Calcutta, 1905," by Dr. T. FRANKLIN PEARSE, special health officer. For some time it has been recognised that pulmonary tuberculosis is very prevalent in Calcutta and is responsible for a high percentage of the deaths. The returns of the causes of death, however, have not been trustworthy since they were based on the mere statements of relatives and friends at the several burning ghats and burial grounds. The exact prevalence of the disease, therefore, could not be correctly estimated. During the year 1905 every death, except those occurring in hospital, was inquired into by the officers of the plague department, and from the clinical reports and histories obtained it has been possible to estimate much more accurately than before not only the total extent of this disease but also its incidence in the several parts of the city. The value of these inquiries is shown by the fact that less than 50 percent. of the deaths from pulmonary tuberculosis were recorded as such in the usual way at the burning ghats and burial grounds. The disease is shown by the report to be much more prevalent than was previously supposed and more fatal than was formerly estimated from the registers. For the year 1905 there was 1648 deaths returned by the plague department as being due to pulmonary tuberculosis. This number constitutes the apparently low rate of 1.9 per 1000 of the population of the whole city. In Bombay the rate is 3.8 per 1000 and for the Indian jails 2.98 per 1000. Dr. PEARSE considers that this apparently low rate for Calcutta is brought about by the exceptional age and sex constitution of the population. Two-thirds of the population are males, and pulmonary tuberculosis in that city being only half as fatal amongst males as amongst females this disproportion reduces the total rate. Again, there is a large excess of persons between the ages of 20 and 50 years, especially males, which also tends considerably to lower the total rate. The excessive prevalence of pulmonary tuberculosis amongst females in Calcutta is, then, one of the most striking features of the investigation. Among males the death-rate was only 1.4 per 1000, which is almost as low as the general rate for England. Whilst among females the rate was more than double—viz., 2.86 per 1000. Equally noticeable is the extreme prevalence of the disease amongst Mahomedan females, the rate for whom works out at no less than 4.6 per 1000. The reasons for the excessive rate amongst the women are not difficult to find. It may be interesting first to notice the comparative incidence amongst males and females respectively in this country. The late Dr. WILSON FOX, from statistics officially

compiled by Dr. W. OGLE, showed that if all ages be included the difference in the death-rate of each sex from "phthisis" is so small that the rates may be considered as practically equal to each other. But if instead of taking the aggregate rates—that is, the death-rates of each sex *en bloc*—the rates at each successive age period are considered, there are found to be remarkable differences between the sexes. In the first quinquennium of life (0—5 years) the male and female rates are nearly the same, the male being only very slightly the higher. In the five age periods, covering between them the interval between the ends of the fifth and thirty-fifth years of life, the female rate is in marked excess of the male rate, the excess being especially notable in the periods from 10 to 20 years of age. At no age, however, is the difference between the liability of the sexes to tuberculosis so marked as in Calcutta. After the thirty-fifth year in this country the male rate becomes the higher and remains so in each age period to the end of life. It is then in the conditions of female life in Calcutta that the reasons for the excessive mortality of the women from pulmonary tuberculosis must be sought and not in any peculiarity of the sex. These conditions are to a certain extent known and may be summed up generally, as Dr. PEARSE remarks, as "deficiency of fresh air." Owing to the confined life which the native women lead in India, especially amongst the Mahomedans, all the requirements for the rapid spread of the disease are fulfilled. This want of good hygiene is further emphasized by the relative occurrence of tuberculosis in the different classes of dwelling. The disease is found to be much more common amongst the population dwelling in huts than in those who habit pucca houses. The former are much more densely crowded than the latter. The average number of occupants per room in a hut is stated to be 3·4, and it is therefore not surprising that tuberculosis should be so prevalent under such conditions.

From this report it is evident that pulmonary tuberculosis is accountable for a large number of deaths in Calcutta and that it is the conditions of domestic life amongst the natives which are mainly responsible for the high mortality amongst the women and to remedy this state of affairs would be a gigantic undertaking. The opinions of the local medical men as to how much might be accomplished by the institution and enforcement of sanitary laws would be interesting. Judging, however, by the difficulties that occur in attempting to deal with epidemics of plague, it is to be feared that an almost insurmountable task presents itself in trying to prevent the spread

of tuberculosis. A total change in the manner of living of the natives would be necessary before any real improvement could be expected. There are, however, many native medical practitioners who could doubtless effect some benefit by an attempt to instruct their patients in the elementary precautions necessary to prevent infection. The deep-rooted prejudice that exists amongst the natives against sanitary reforms would probably be one of the chief obstacles but the present loss of life from tuberculosis is deplorable and calls for some attempt to remedy it."

The Indians are aware of their shortcomings. It is not always true that Indian women can not enjoy healthy atmosphere. They generally ascend the uppermost terrace to enliven themselves with free air. The Hindu Shastras always enjoin sanitary measures. It is utter ignorance of Indian life, to speak of the insanitary condition of most of the Indian houses. Wherever any bad condition exists, it is due to poverty, as in *bustis*. The constant occurrence of famine every year testifies to the fact. The *kinthals* of low Europeans and Eurasians are worse than the bad Indian homes. Another clinical fact which goes against the seclusion charge is that two cases of tuberculosis are rare in the same house as is often the case in England. The true cause of the spread of tuberculosis is the milk of the consumptive cows, against which the Health Office has taken no effective step. The inaction of the department finds excuse in charging others with uncleanness. As an example of the inactivity of the office, we may point out that the Health Officer often writes in his reports the presence of innumerable cholera bacilli in the water of the Tolly's Nulla. No warning has ever been given of the danger of bathing in that river.

The increase of death of Mahomedan females from phthisis is open to doubt. Most of the cases so returned are deaths from chronic bronchitis. We generally observe tuberculosis (galloping consumption) more among males than females.

Physiological Glycosuria of Pregnancy.

The British Medical Journal, 16 June, has the following :

"RUDAUX (*La Clinique*, May 15th, 1906) distinguishes between glycosuria and pregnancy. It is normal for sugar to exist in the urine of parturient women, of nursing women, and of a certain number of pregnant women. During pregnancy the hepatic gland secretes an abnormal amount of glucose, partly as the result of the hyperactivity of all its functions, which involves also the glycogenic

function, and partly to supply the mammary gland with the materials which it requires for the exercise of its function. A systematic examination of urine during pregnancy shows that after the sixth month it is not uncommon to detect as much as 3 or 4 grams of glucose in the urine, and that as term approaches this glycosuria tends more and more to become lactosuria. The mammary gland is preparing for the active exercise of its function after parturition. If the liver only secretes a small quantity of glucose, it will be entirely transformed into lactose by the mammary gland, and as it is not yet utilized it will be reabsorbed by the blood and excreted in the urine. If an excess of glycogen is secreted, only part of it will be converted into lactose; the remainder will be eliminated in the urine at the same time as the lactose, and both glycosuria and lactosuria will be present. When there is hyperactivity of the glycogenetic function, the urine may contain as much as 20 grams of glucose without being accompanied by any of the other characteristic symptoms of diabetes. The proof that this glycosuria is physiological and not pathological lies in the facts that the pregnancy is normal, and that it disappears a few days after parturition, when the function of the mammary gland is established. The glycosuria of pregnancy is more common among multiparae, especially among those who have already nursed their offspring, and indicates that the mother will be able to nourish the child well. It is questionable whether women who have suffered during pregnancy from a severe or prolonged toxæmia of hepatic origin will be able to supply a milk containing sufficient lactose, for an inefficient liver must react equally upon the glycogenetic and the antitoxic functions."

The difference between normal and abnormal glycosuria admits the presence of normal glycosuria. We know from clinical experience that normal emission of sugar in urine is possible in certain cases especially with vegetarians. The clear limit of distinction, in many cases, is still wanting. It may be reasonable to infer normal glycosuria in pregnant females, but the difficulty of the assumption is great in other cases. It is known that normal glycosuria occurs in certain Indians who are much addicted to sweets as Jains and Marwaris

CLINICAL RECORD.

Foreign.

IS WETTING THE BED WITH CHILDREN CURABLE?

BY DR. STAEGER, BERN, SWITZERLAND.

I will here adduce five cases of bed-wetting, all of which were cured within a short time through *Nux vom.* 3 :

I. On August 2, 1905, a mother came to my office with her daughter seventeen years old, with the request that I might cure her child of the affliction of wetting the bed. Her daughter looked slim and had bluish-violet rings around her eyes; she was eminently nervous and continually turning red and again turning pale. From her childhood she had wet her bed and the affliction did not disappear with her puberty. I gave her *Nux vomica* 3 in liquid form, directing her to take three times a day five drops.

Two weeks later the mother reported that the daughter had only wet the bed once the last two weeks. Before this, it had frequently happened every night, or at least two or three times a week. I gave her the same remedy once more, and after two more weeks the mother told me there had been no more relapse. The woman was lately in my office and confirmed the permanence of the cure.

II. The seven-year-old sister of this patient suffered from the same ailment and was also permanently cured by the same remedy.

III and IV. On the 3rd of October the lady principal of an orphan asylum came to me with two boys, five and eight years old who, for months, had wet the bed every night. The younger boy came from quite a neglected family and had received wine and beer even when he was three years old. The older boy showed movements as of chorea, both with hands and feet. The principal had tried everything she could think of and had also been to see several allopaths, but without results. Both received *Nux vom.* 3 and both are to this day free from their trouble. The principal is very thankful and cannot comprehend that a few drops out of a little brown bottle should have such medical power.

V. A mother in the Canton of Zurich wrote to me on September 3, 1905: "Honored Doctor—Your two bottles have done wonders. My husband and myself are astonished and cannot thank

you enough. Just think, since Adolph has taken the remedy he has not wet his bed even once. I entreat you, dear Doctor, to send me one more bottle, so that if the trouble should reappear, we may have the wonder worker right at hand."

The boy was seven years of age, and according to the description of the parents, he, was of a nervous disposition and wet his bed every night two or three times. The wonder-worker was *Nux vomica* 3.

I have here purposely adduced only *Belladonna* cases. I could just as well have given cases cured with *Cina*, *Belladonna*, etc. I only desired to show by my selection the indications which point to *Nux*. Whoever individualizes exactly will have extraordinary success, especially in this ailment. But everything must be done through strenuous distinction. *The physician's penetrating look cannot be supplied by any number of books, be they ever so excellent.* I would impress this on over-anxious souls who may think that I have not revealed the whole secret.—*Homœopathic Envoy*, July 1906.

PYROGEN IN SEPSIS.

In pyrogen, an *isopathicum*, we have a valuable remedy for cases of serious sepsis; sepsis *per se* as in septicemia and sapremia as well as in cases complicated with sepsis such as typhoid, phthisis in the later stages, gonococcal endometritis, pelvic peritonitis, etc.

CASE. Woman, æt., 29, married six years, had had one still-born child, and later had aborted in the third month with great loss of blood. She suddenly and violently became ill with peritonitis, (chill, pulse 130-40, temperature 104.9 degrees, extreme sensitiveness of abdomen to the slightest touch,) the first and most acute stage of which was met by *Bryonia* 3. The temperature fell gradually to 101-102 degrees; as the result of the attack, there developed a tough exudation as large as a child's head in Douglas' cul-de-sac and the right parametrium, a swelling of the left ovary, and a light septic mitral endocarditis. The condition persisted for weeks unchanged; about 6 weeks after the beginning of the trouble violent rheumatic pains appeared in the right sciatic region accompanied by irrepressible unrest in the previously quiet patient and followed by a profuse menorrhagia with the passage of clots as large as the fist, (4 weeks previously the menses had appeared

for a few hours only, in traces.) Pyrogen 10x, gtt. v. morning and evening was then given; with a rapid return of temperature to normal, a fall of the pulse from 110 to 80; and in three weeks the exudate had shrunk to the size of a small apple. No other remedy was used. Dr. Boeckh.—*The North American Journal of Homœopathy*, July 1906.

IGNATIA IN SCIATICA.

E. T. aet. 53, suffering from a classical right sciatica (Valleix's Points: painful points in peripheral neuralgia where the nerves find exit through fasciæ or bony canals; Lasègue's Sign: differentiating sciatica flexion of thigh upon hip is painless or easily accomplished when the knee is bent). The pains were fulgorant, in violent shocks, < at night, forcing the patient to continually change position. During the day he suffered little. Nux vomica, indicated by the fulgorant pains was given, gtt. xv. of the tincture daily, for three days without relief. It was replaced by ignatia gtt. v. tincture. The first night there was marked amelioration which continued. Rhus tox. 3 was given to complete the cure—indicated by the > from motion. It failed completely and the patient returned to his original condition. Ignatia was then rescribed and the patient was cured in a few days.—Dr. Jousset, *L' Art Medical*.—*North American Journal of Homœopathy*, July 1906.

LACTUCA VIROSA—CASE:

Child aged eleven years, has incessant spasmodic cough, caused by a tickling in fauces and preceded by a sense of suffocation. Cough threatens to burst the chest, and is accompanied by headache—the worse the cough the worse the headache. Is either sleepless, or lethargic.

Pathogenetically we have:

"Headache, with affections of the respiratory organs. Difficult breathing; suffocating breathing; constant tickling cough; incessant spasmodic cough, as if the chest would fly to pieces. Sleep, restless; impossible to get to sleep; deep comatose sleep. The worse the cough the worse the headache".—*The North American Journal of Homœopathy*, June, 1906.

Gleanings from Contemporary Literature.**THE MANAGEMENT OF A CASE OF LABOUR.**

DELIVERED AT THE UNIVERSITY OF BIRMINGHAM.

BY C. E. PURSLOW, M.D., M.R.O.P.,

HONORARY OBSTETRIC OFFICER, QUEEN'S HOSPITAL; INGLEBY

LECTURER FOR THE YEAR.

EDUCATION OF MEDICAL STUDENTS IN MIDWIFERY.

Dr. Ingleby was a strenuous advocate for the better recognition of midwifery by the authorities in the medical world and by the examining boards, and for more thorough teaching of the subject, and after quoting Dr. Ingleby's views on this subject, the lecturer proceeded as follows :

Matters have improved as regards the education of the medical student in midwifery since Dr. Ingleby's day, but are still very far from satisfactory, attention was drawn particularly to this by Dr. Dakin in his presidential address at the Obstetrical Society of London last year. Dr. Dakin compared the careful instruction in medicine and surgery which the student is compelled to undergo, by the examining boards, at the hands of members of the hospital staffs, with the casual way in which he is allowed to get his practical knowledge of midwifery ; all that is wanted from him in this respect being a certificate "of attendance on twenty labours," and this may be signed by "one or more legally qualified practitioners." No rules are laid down as to what should constitute "attendance."

The teaching of midwifery will never be placed upon a satisfactory basis until each medical school has its own lying-in hospital or lying-in wards attached to its general hospital, attendance in which, under the recognized teachers of the subject, must be compulsory ; and the certificates of those teachers alone should be accepted by the examining Boards; in this connexion I welcome the proposed re-establishment of a lying-in hospital in this city, and trust that it may be made available for the instruction of medical students.

THE MANAGEMENT OF A CASE OF LABOUR.*Early Management of the Mother.*

The anxieties and responsibilities of the medical attendant begin as soon as the patient engages him to attend her in her expected confinement; and the first question which arises is, should he insist on making an abdominal and vaginal examination of every patient ?

A few obstetricians refuse to attend cases in which they are not allowed to make such an examination. My own view is that, though such an examination may be theoretically advisable, it is by no means always practically expedient, and it should only be insisted on when in a primipara there is a history of rickets in childhood, or the presence of an actual deformity as distorted spine, or bent legs, or dwarfed stature, suggesting rickets.

pelvis, or kyphosis suggesting kyphotic pelvis, or disease of the hip-joint, loss of a leg or lateral curvature suggesting some form of oblique pelvis.

In a multipara the history of previous labours may always be taken as a safe guide, and examination only insisted on when the occurrence of previous difficulties in delivery suggests a contracted pelvis. The patient should be kept under careful observation during her pregnancy; the diet should be regulated, and the urine systematically and carefully examined, particular attention should be paid to the presence of albumen in the urine and, if this is found in a catheterized specimen, the patient should be put under appropriate dietetic and hygienic treatment without delay.

The Doctor and Nurse.

The next question is the engagement of nurse, and in this matter the medical attendant should certainly be consulted. Harmony between nurse and doctor is most essential, and from the point of view of puerperal infection the nurse is quite as important as the doctor. It is extremely annoying and unjust to an obstetrician that after taking most careful antiseptic precautions he should sometimes have his case infected by a careless and septic nurse.

If a nurse has passed through a course of instruction at a lying-in hospital she will, at all events, have been rendered fully aware of the importance of cleanliness, and as a rule, may be trusted to be safe. If the medical attendant has any doubt he should carefully instruct the nurse before the time of labour on the antiseptic measures he wishes her to use.

The state of health of both doctor and nurse is important, and any purulent discharge in either is decidedly dangerous. Any suppuration about the hands, such as onychia, should be held to an absolute contraindication to midwifery practice for the time being. Suppurating aural or nasal discharges are also dangerous, and, if not held effectually in check, should unfit any one for midwifery practice.

Dr. Mendes de Leon of Amsterdam, in a paper read before the British Gynæcological Society two years ago, drew attention to the important part played by the expired air of the surgeon and attendants in producing sepsis in abdominal surgery, and although so far as I am aware it has not been proposed to wear gauze veils for obstetric work as is now done in some hospitals for operating, still we should at least be careful that there is no focus of infection in the mouth, such as necrosing and suppurating stumps, and the mouth should be well washed out daily with antiseptic lotion.

It is advisable for an obstetrician, as for an operating surgeon, to avoid long hair, and if a beard is worn at all it should be short and well trimmed.

One may sum up by saying that the most scrupulous attention to personal cleanliness in both doctor and nurse is absolutely essential to obtain successful results in midwifery practice.

The lying-in Room.

The choice and preparation of a room is the next question, though frequently the doctor is not consulted in this matter.

The best ventilated and quietest room in the house should be chosen, and it should not be near the water-closet. Fixed lavatory appliances, connected with the drains, are, in my opinion, always objectionable in bed-rooms, and certainly no room containing them should be chosen for a confinement. It is well to have an open fire-place in the room, and I must confess to a strong preference for open coal fires over any other form of heating for a bed-room.

A single bed, with firm mattress, should, if possible, be used. The mattress should be protected by a mackintosh covered by a clean folded sheet, or the cotton-wool sheet supplied in obstetric outfits for the purpose and it is a distinct advantage to have the patient in such a position that she can place her feet against the foot of the bed and pull upon a sheet attached thereto, as this aids the expulsive efforts.

The Patient During labour.

The patient should, when possible, have a bath at the onset of labour, and then put on clean clothing, vest, and nightdress, the latter being tucked up round the waist, a clean skirt, and clean stockings.

After labour has commenced the patient should be strictly enjoined not to make use of the watercloset, but to use clean utensils in the bedroom, and these should be at once removed by the nurse.

If the patient has not been able to have a bath the nurse can, at all events, wash the vulva with soap and water. To any one who considers the matter for a moment it must be obvious that the vulva in many women harbours innumerable germs, and in this connexion we should welcome, as obstetricians, the more rational form of dress which women have largely assumed of late years. It is highly desirable that all women should wear some form of bifurcated and closed garment for the lower extremities, so that contamination of the vulva by the dust and germs of the streets, which may be swept up by the skirts, should be prevented.

Abdominal Examination.

Much has been written of late years about abdominal palpation in labour and no one can deny its great value. Some have gone so far as to claim that labour may be conducted throughout without vaginal examination; and though this is undoubtedly true as regards lying-in hospitals, it can not apply to every case in private practice, and for this reason. By abdominal palpation one can diagnose the position and presentation of the child, its adaptability to the pelvis, the presence or absence of liquor amnii, and the character and strength of the pains; but one cannot ascertain the state of the cervix, and it is the latter which is mainly our guide as to the time the labour may be expected to last and the wisdom or otherwise of leaving the patient. Therefore, while advising that vaginal examinations should be as few as possible—and in many cases one will suffice—I cannot endorse the advice of those who would forbid them altogether.

Preparation of the Hands of the Obstetrician.

I should like, in the first place, to lay particular emphasis on the importance of guarding against contamination of the hands as far as possible in our daily work. I feel sure that there is room for improvement in this respect, and that the "aseptic conscience" of each of us should be so developed as to prevent us at any time needlessly infecting our hands with septic matter, and to make us always on our guard against contamination.

For examining and operating upon septic cases of all kinds rubber gloves are strongly to be advised. I never examine cases of puerperal sepsis to which I may be called without first putting them on. I find that all the manipulations required can be quite well performed in them.

In connexion with this question of safeguarding the hands from septic contagion there are two points in everyday gynaecological practice to which I wish to draw attention.

The first is that the free use of grease in making gynaecological examinations is a great preventive of contamination of the skin of the examiner's hand.

The second is that, after the surgeon has made a vaginal examination, the nurse almost invariably hands him a piece of cotton-wool with which he is expected to wipe his finger. It is, in my opinion, a mistake for him to make use of this; it is far better that he should at once plunge his hands into hot water and wash them in the usual way.

There are many different ways of preparing and sterilizing the hands, but practically all agree in commencing with a thorough and prolonged scrubbing in soap and water, using a nailbrush; it is always well for the obstetrician to carry his own nailbrush. After rinsing off the soap the hands should be immersed in some antiseptic solution. Personally, after the preliminary scrubbing with soap and water, I soak my hands in a 1 in 2,000 solution of mercury perchloride, again using the nailbrush.

There is a tendency on the part of some practitioners to make too much of a fetish of the chemical antiseptic, and correspondingly to neglect the soap and water; the latter is, in my opinion, by far the more important agent.

The coat should be removed, the shirt cuffs turned up, and rings, if worn removed before commencing to prepare the hands.

Vaginal Douches.

As regards the question of an antiseptic vaginal douche before labour, personally I do not advise that one should be used, and I think that there are many strong objections to it, the most important being that by using the douche the natural lubricating secretion, which is thrown out so freely in the early stages of labour, is washed away.

It is well for the nurse in every case to give a rectal enema at the beginning of labour, and, when the bowels act, special care should be taken in cleaning afterwards to ensure that faecal matter does not contaminate the vulva.

Vaginal Examinations.

The question of a lubricant next engages our attention. A lubricant is not absolutely necessary, and can be dispensed with, but, in my opinion, it is preferable to use one, as the introduction of the finger is thereby facilitated and rendered less painful; this applies particularly to primiparae.

Another strong argument in favour of using a lubricant is that the latter undoubtedly protects the skin of the examiner's finger, and renders inoculation of syphilitic or septic poison less probable. The late Mr. Lawson Tait strongly supported the use of grease from this point of view. He said in his book on *Diseases of women*:

It must not be forgotten that this is one of the most important objects in the use of grease in vaginal examinations.

Whatever preparation is used, the lubricant should always be carried in collapsible tubes and not in pots or boxes; a little may be squeezed out on to the finger, and the remainder is not contaminated.

Rupture of the Membranes.

If the membranes have not ruptured at the time of the examination, it is always advisable to make a second examination when this event occurs, as a change in the presentation may sometimes then take place, but more particularly because it is at this stage that the cord occasionally comes down; unless this condition is detected by vaginal examination, the child's life may be lost for want of the appropriate treatment.

The Second Stage.

During the course of the labour the vulva should be cleansed at frequent intervals, and, as the head descends and commences to press out faecal matter, this should be wiped away by pledgets of wool dipped in hot perchloride solution, taking care to wipe in a direction away from the vulva. If the fingers of the obstetrician or nurse become soiled with faeces, the hands should be at once thoroughly washed, and afterwards immersed in the perchloride solution.

As soon as the head reaches the vulvar orifice the parts should be kept clearly in view until the labour is completed.

I believe that much may be done in the way of prevention of rupture of the perineum by preventing the head from making too rapid an exit, and by pushing it forward against the pubic arch and assisting its extension.

The head may be pushed forward and extension favoured by placing the thumb or finger on the stretched-out tissues at the sides of and behind the anus and pressing forward. I do not favour the placing of a finger in the rectum, as, in addition to the disadvantage of fouling the finger, the rectal mucous membranes may be readily damaged by this proceeding. An additional means by which the perineum may be saved is by taking care that the thighs are extended at the moment of greatest stretching; this particularly applies to the right thigh, which is held up by the nurse

at this stage, and, unless she is directed otherwise, she will flex it strongly on the abdomen.

My experience of ruptured perineum has been that many of the worst cases have been those in which the child was born without any assistance before the arrival of the accoucheur.

The incision of a tense perineum has never commended itself to me, and is not, I think, much practised in this country; the main objection to it appeared to me to be that one can never tell with certainty that a perineum is going to rupture, and if incisions are practised as a regular procedure a perineum will frequently be incised which, except for the zeal of the obstetrician, would have escaped damage; to what length incision is carried out in Germany may be judged from an article by Fleishman, who recommends.

The use of the median episiotomy incision in place of the lateral incisions which are commonly advised, on the ground that it gives more room, has cleaner edges, and more equal surfaces, and is not so liable to extend deeply; he has considerably extended the indications for its use, and it is often his first procedure in forceps delivery in elderly primiparae. Not infrequently by the use of median perineotomy it has been possible to save the patient from forceps operation.

I think that I may say that the latter would be regarded by us as the lesser evil of the two.

UTERINE INERTIA.

Delay in the first stage with the membranes unruptured may be prolonged over several days without any harm resulting, and I have known the uterus to remain absolutely inactive, with the os open to the size of a crown piece, during six or seven days; some of the most marked examples of this condition have been in the poor patients of the hospital and lying-in charity, and the inertia has been due, I believe, to muscular weakness from insufficient food during the latter part of pregnancy.

If the membranes have ruptured, delay even in the first stage may become serious, and the mother may show dangerous symptoms of exhaustion, and active treatment may be indicated.

The usual treatment, however, of inertia in the first stage is to give the patient nourishment and to endeavour to obtain sleep, administering sedatives if required.

As regards oxytocic drugs, I do not think that the value of quinine is sufficiently appreciated. Five grains, in powder, repeated two or three times will often have a marked effect.

The administration of sugar has been proposed as a remedy for exhaustion of the voluntary and involuntary muscles of labour. I have tried it with, I think, good results; it has at all events the merit of being harmless.

I think that the majority of those who attend midwifery cases will agree with me that a certain, not inconsiderable, percentage seem unable to terminate their labour without assistance, and require forceps to com-

plete the second stage no matter how persevering the woman or how patient the accoucheur.

Posture in Labour.

I believe that this failure of the natural powers to complete delivery is to be ascribed in part to what may be called the unnatural position assumed by civilized woman at the latter part of the second stage of labour. Dr. Robert W. Felkin, in a paper read before the Edinburgh Obstetrical Society in 1884, entitled *Notes on Labour in Central Africa*, gives account of the customs of numerous tribes, with illustrations of the positions adopted during labour, and the latter show that some form of semi-erect or squatting posture is universal.

The question of posture in labour is gone into very thoroughly in a book entitled *Labour Among Primitive Peoples*, by Dr. Engelman.

After describing the attitudes assumed by uncivilized peoples in all parts of the world, he sums up as follows :

The care with which the parturient women of uncivilized people avoid the dorsal decubitus, the modern obstetric position, at the termination of labour, is sufficient evidence that it is a most undesirable position for ordinary cases of confinement.

The reasons given for its undesirability being that no assistance from gravity is derived in that position, and that the abdominal muscles cannot act to advantage. It is clear that the strict dorsal position as taught on the Continent of Europe and in the United States is the one referred to, as Dr Engelman says :

The English method, on the side, with the body bent forward and the thighs drawn up, is much more advantageous, in so far as the abdominal muscles act better.

He says, however, that the proper position for the termination of the second stage is—

the semi-recumbent position in bed, the body at an angle of 45°, the hips resting on a hard mattress, thighs well flexed.

And states .

This is the easiest, most comfortable, and appears to afford the greatest relief and the greatest freedom from pain, coupled with the greatest effect of the uterine contractions, relaxation of all the parts, and free play of the abdominal muscles.

He points out, moreover, that in this position the perineum has a certain amount of support from the mattress on which the patient is placed.

Whether we agree with the above or not, I think that all obstetricians may, with advantage, follow the advice of Dr. Engelman that in labour the patient should be given greater liberty, and should be permitted to follow her instinct, in regard to her movements, more freely than is now customary.

The attitude assumed by women of the poorer classes in this district approaches somewhat to that described by Dr. Engelman as the most

efficient. The bed is rolled up from the mattress, and the patient lies on her left side, with her shoulders raised up to a considerable height by the rolled-up bed; this position is inconvenient for the accoucheur, but one cannot doubt that it is advantageous for expulsion.

The worst attitude of all is the usual left lateral on the modern spring bed, the latter invariably sinks down towards the middle, and if the hips are brought to the edge of the bed, as is usual, they are at a distinctly higher level than the remainder of the body, and the expulsive powers are consequently working against gravity instead of being favoured by it.

THE USE OF FORCEPS.

I am firmly convinced that the timely application of the forceps when the head is on or near the perineum and does not advance, in spite of strong pains, is beneficial.

If forceps are used and chloroform is given, very little of the latter is required, less than 1 drachm being amply sufficient in many cases. It is most important not to give chloroform to such an extent as to render the regular pains not easily discernible, and it is essential that traction should only be made during a pain.

Opinions differ as to whether the forceps should be taken off when the head is distending the perineum. Personally I am in favour of keeping them on until labour is completed, as by their means the head can be kept well forward under the pubic arch, and the strain on the perineum considerably relieved; moreover, the speed of delivery can be exactly regulated, and I think that these advantages more than compensate for the small amount of extra room required by the blades of the forceps.

OCCIPITO-POSTERIOR POSITIONS.

A frequent cause of delay in the second stage is a persistent occipito-posterior position of the vertex, and I have found that some of these cases can be most successfully treated by rotating with the forceps, after other means of rectifying the position have been tried in vain.

To do this it is absolutely necessary that the diagnosis should be exact, and that a clear and correct idea of the direction in which the head ought to rotate should be formed, when this has been done the forceps may be applied, and as traction is made gentle rotation in the required direction should be made also; if this is successful it will be necessary to take off the forceps and reapply them before delivery is completed, unless short forceps are used.

RUPTURE OF PERINEUM BY SHOULDERS.

It is not uncommon for the perineum to be ruptured by the passage of the shoulders after it has stood without damage of the head. This may frequently be avoided by preventing the shoulders from emerging together, and thus distending the perineum to the full extent of the bi-acromial diameter; and in order to do this the anterior shoulder should be extracted first.

THIRD STAGE.

We find that there is a general consensus of opinion that the management of this constitutes the most important part of the obstetrician's duty. Dr. Ingleby said :

If the skilful management of the placenta is justly deemed a great attainment in the practitioner, it cannot be doubted that it is of great importance to the patient, whose life indeed may be said to depend immediately upon it.

We may with interest and advantage consider the varied views which have been held in the past as to this part of the obstetrician's duty. [After reading extracts from several old books Dr. Purslow continued :]

All modern writers of text books ignore the reasoning of Deuman, and advise some assistance during the third stage ; the usual method recommended is, that the hand should be placed on the uterus during the latter part of the expulsion of the child, and, after that is completed, that the uterus should remain more or less continuously under observation by the hand, and that if it becomes flaccid gentle kneading should be used to induce contraction again ; as soon as there is evidence that the placenta has left the uterus, as shown by the diminution of its circumference, the uterus is firmly grasped and pressed downward in the direction of the axis of the pelvic brim thus forcing the placenta out of the vagina. In the words of Galabin

In this expression the contractile upper segment of the uterus acts simply as a piston, by means of which the pressure of the external hand is transmitted to the placenta lying in the relaxed lower segment and vagina.

If there is no descent of the placenta at the end of about half an hour it is advised that the uterus be stimulated by pressure and kneading, and, as it becomes hard, that it be squeezed ; and, if the placenta can be felt to leave it, that the pressure be continued downward in the direction of the pelvic axis, as above.

In contradistinction to the usual teaching of the present day, Dr. Horrocks takes the extreme line in non-interference, and would not even advise following down the uterus during the expulsion of the child, or placing the hand on it after delivery, to ascertain if it is contracted ; he says that if there is no visible haemorrhage and the pulse is good we may safely assume that all is going on well without examining the uterus.

The difficulty so often experienced in the third stage of labour in civilized women as compared with its ease and shortness in the uncivilized is undoubtedly partly attributable to the position assumed by the former. Among the uncivilized some form of external pressure by the woman herself, or her attendants, is almost universal, but, as pointed out by Engelmann, the position assumed is invariably the standing or squatting, and thus gravity comes to the aid of the expulsive efforts. In the usual obstetric position the woman is unable in many cases to extrude

the placenta from the vagina without artificial assistance; thus von Canpe (quoted by Hirst) in 120 observations found that in twenty-four instances the placenta had not been expelled within twenty-four hours.

It is strange that there should be any difference of opinion as to the surface of the placenta which presents at the os uteri and vulva, but on looking up the matter I find that all writers are not agreed on this; the majority state that some point on the amniotic (fetal) surface presents, thus Champneys found, in a careful observation of 70 cases, that only two presented by the maternal surface. Hirst states that

The placenta is usually expelled like an inverted umbrella, the fetal surface coming first, with the membranes trailing after it; it occasionally, however, escapes edgewise.

Dakin says -

The placenta never, unless its lower edge was originally close to the internal os, presents by its edge, but by some spot on its fetal surface from $\frac{1}{2}$ in. to $3\frac{1}{2}$ in. above its lower edge, in most cases about 2 in.

Playfair alone amongst the authors whom I have consulted describes the maternal surface as presenting; thus he says.

The uterine surface of the placenta is generally expelled first, the cord being within the membranes, and he gives a diagram to represent this

I have paid particular attention to the phenomena of the third stage of labour, and have watched it carefully in each case, and I have come to the conclusion that the placenta normally presents by the amniotic surface, as described by Hirst and Dakin, and that the description of Playfair is absolutely wrong. Moreover, I have formed the opinion that presentation of the maternal surface is almost always brought about by too early or too forcible application of expression to the fundus, and is invariably attended by tearing and retention of more or less of the membranes.

It is well known that attempts to press out the placenta too soon after the birth of the child are very liable to be followed by difficulty with the membranes, and the explanation I venture to give is this:

If pressure is made while the placenta is still partly attached to the uterus, the effect is to drive the blood, which is lying behind the placenta, into the most dependent part of the bag formed by the already detached and inverted portion of placenta and membranes, and if this pressure is forcible and continued, the blood is forced through the membranes at their junction with the placenta, and the maternal aspect of the edge of the placenta is thus allowed to present, when the membranes have once been torn in this way they may easily be completely detached, and I have no doubt that it has been within the experience of some of my audience, as it has been my own, to occasionally see the placenta expelled entirely bereft of its membranes, in cases where there has been much difficulty with the third stage

This unsatisfactory result will very rarely be seen if ample time is given for the placenta to separate and no attempt is made to squeeze the uterus

forcibly, gentle kneading to encourage uterine contractions being all that is required.

I believe violent squeezing of the uterus shortly after the child is born to be a most disastrous proceeding, and one of the reasons for the still extensive prevalence of puerperal fever.' Crede himself in his later years considerably modified his method, and in his latest writings directed that, in the absence of any serious hæmorrhage, about thirty minutes should elapse before the placenta was expelled.

The same forcing of blood through the membranes, tearing them away from the placenta, may occur as the placenta is being expelled from the vulva; and it is upon three cases in which I saw this happen that I have based the explanation above given. In these cases the amniotic surface of the placenta first appeared in the usual way; then, as pressure was being made from above, the edge of the placenta with the adjoining membranes appeared, and on further pressure the membranes could be seen to give way and the maternal surface appeared, several clots at the same time escaping from the interior of the torn bag of membranes. It is probable that in these cases the outer edge of the membranes had not been completely detached.

The same result might conceivably result from violent bearing-down efforts of the patient without assistance from the accoucheur; but in each case in which I observed it external pressure (Crede method) was applied.

When the placenta is in the vagina there is less likelihood of the accident I have described occurring, if in addition to pressure on the fundus, gentle traction on the cord is also used to assist the exit of the placenta; less pressure is needed on the uterus, and the placenta and membranes come away intact in a more satisfactory way than when the Crede method alone is used. We may regard the amount of traction on the cord as compensating for the loss of the assistance of gravity which, as we have already seen, is obtained in the more natural position assumed by the uncivilized woman for this stage of labour.

It seems to me that in the reaction against the old, bad, and dangerous method of dragging out the placenta from the uterus by pulling on the cord, some writers have gone too far in laying down the rule that the cord should never be pulled upon, even when the placenta is lying outside the uterus.

Since writing the above I have read a most valuable address by Dr. G. F. Blacker on the Management of the Third Stage of Labour. He says that there are three ways in which the placenta may be expelled: First, the inverted fetal surface leading; secondly, folded upon itself; third, the maternal surface leading; and adds.

It is more especially when the placenta is expelled in the last-named way—which occurs, according to Varnier, in 9 per cent. of cases—that retention of membranes is liable to occur.

In the Queen's Hospital Maternity some 400 to 500 cases are attended annually, and during the sixteen and three-quarter years in which I have

been in charge there has been no death from *post partum* hæmorrhage. This good result I attribute partly to the fact that the students attending the cases are not hampered with other work, and consequently are not tempted to unduly hasten the delivery of the placenta.

Conclusion.

To sum up, my own views as to the mechanism and treatment of the third stage are :

• That in all but a small percentage of cases the uterus is able to separate and expel the placenta from its cavity without assistance.

That the time required for this varies greatly. In some cases the placenta appears to be separated by the same pain which expels the body of the child, and in a very few minutes will be found in the vagina; in other cases half an hour or more is required. Delay and difficulty is more particularly experienced in cases in which the previous stages of the labour have been tedious, and especially when delivery has been effected by forceps under chloroform, after many hours of ineffectual pains.

That the vigorous squeezing of the uterus, so commonly practised a short time after the child is born, interferes with the mechanism of detachment, and leads to tearing and separation of portions of membrane, or even in some cases of portions of placenta.

That, although squeezing is not advisable, it is well to place the hand at frequent intervals upon the uterus, as otherwise, in some cases, the uterus may distend with blood to a dangerous extent; if this distension is felt to be taking place, gentle kneading movements, to ensure contraction, may be used.

That a considerable proportion of women appear to be unable to expel the placenta from the vagina, and that this failure is partly due to the lack of the assistance of gravity when the woman is in the recumbent position.

That it is a mistake to rely solely on forcible pushing downward of the uterus in order to procure the expulsion of the placenta from the vagina, and that much better results are obtained when less pressure on the uterus is employed and the exit of the placenta is assisted by gentle traction on the cord.

AFTER-TREATMENT.

When the placenta and membranes have been examined and found to be complete the patient should be cleaned up. I think that it is at this stage that remissness is sometimes shown, and I am strongly of opinion that the toilet of the vulva should be performed by the medical attendant himself, and not left, as is so often done, to the nurse or, among the poor, to the ignorant and dirty neighbour who is officiating in that capacity. I am convinced that some cases of puerperal fever arise through this rule not being observed.

In addition to cleansing the vulva with an antiseptic lotion, it is well to trim the hair of the labia with scissors, if it is at all long, as its removal much facilitates the subsequent task of keeping the genitals clean. When

the cleansing is completed, a clean napkin or antiseptic pad should be applied to the vulva.

As regards douching after labour, there is great divergence of opinion; my own practice is: If I have found it necessary to pass my hand into the uterus, as for removal of the placenta, I give an intrauterine douche myself, at the conclusion of the labour, of some antiseptic, as lysol, *not* perchloride, as the latter is readily absorbed from the inner surface of the uterus.

I have tried the various forms of apparatus used for this purpose, including the Higginson's syringe, the reservoir douche, and the Rotunda siphon douche, and have come to the conclusion that there is nothing at once so clean, safe, and satisfactory as the apparatus we have used for some years in the Queen's Hospital maternity; this consists of a glass funnel, about 2½ ft. of rubber tubing, and a glass vaginal or uterine tube. The solution is prepared in a jug and the funnel is given to the woman in attendance with directions to keep it full from the jug; by this means there is no risk of air getting in, as will happen with a Higginson's syringe; neither is there any risk of the apparatus being fouled by any backflow, as is the case with even the best Higginson's syringe.

The pad on the vulva must be changed at intervals, particularly after evacuation of the bladder or bowels, and a fresh one substituted. The same pad must on no account be replaced.

After evacuation of the bowels the parts must be cleansed with antiseptic lotion, great care being taken that the vulva is not contaminated with faecal matter.

As regards the repair of lacerations of the perineum, the needle to use for this purpose should be one with a strong curved stem, and a handle which will give a good grip. Cullingworth's perineum needle is one of the best, and is the one I always use. There is no better material for suture than silkworm gut; this can now be obtained prepared, and with its ends cut off, and the very stoutest salmon line gut should be chosen for this purpose; it is readily sterilized by boiling.

The most usual fault in repairing the perineum is that too small a needle is used, and the deeper structures, particularly the torn muscle, are not secured, the result is that the skin may heal, forming a bridge underneath which is a communication between rectum and vagina. I have dealt with several cases in which this condition had resulted, in the gynaecological ward of the Queen's Hospital.

After the patient has been placed on her back in bed, it is usual to apply a binder to the abdomen, though this should not be done until at least half-an-hour after the birth of the child, and not then, unless the condition of the uterus and of the pulse is satisfactory.

Some modern authorities state that a binder is not necessary, and has no good effect in preserving the figure, but even if that be granted, no one can deny that the binder has an immediate good effect in driving the blood from the large veins of the abdomen, and so preventing any tendency to

cerebral anæmia, and this is particularly useful if the loss of blood has been at all great. I do not agree with the plan followed by some accoucheurs of putting a hard substance, as a book or pincushion, over the uterus before applying the binder.

There are some points in connexion with the management of the puerperium to which I desire to call attention.

First, with reference to retention of urine, which not infrequently follows a prolonged or a forceps delivery, before having recourse to the catheter, hot fomentations, preferably with antiseptic lotion, may be tried, and sometimes they are efficacious. If the catheter is required the question arises, should it be passed by touch or by sight? I am strongly in favour of the latter plan, but, before giving my reasons, I should like, with your permission, to quote verbatim the directions given in Hegman's *First Lines in Midwifery*, as this is a book extensively read by students and midwives:

To Pass a Catheter.—Place the patient on her back, with the knees drawn up. Cleanse the parts by gently wiping them with wool dipped in 1 in 2,000 sublimate solution. Take the catheter in the right hand, and hold it about 2 in. from the tip. (It is a good thing to put about 3 ft. of India rubber tubing over the open end of the catheter; the urine is then conveyed out of the bed into a utensil on the floor.) Stand on the patient's right side, and pass the right hand holding the catheter under the patient's right thigh. Pass the left fore-finger over the abdomen between the labia into the vagina. Then draw it upwards exactly in the middle line until the pulp of the forefinger feels the orifice of the urethra. The meatus urinaris feels very like one of the small linen-covered buttons with which underclothing is often fastened: a little ring, with a slight depression in its centre. When you feel this, draw the finger upwards till it is just above the meatus, and then with the right hand pass the point of the catheter below the tip of the left forefinger into the urethra. If you cannot succeed in thus quickly finding the meatus by the touch, it is better to look than to annoy the patient by prolonged attempts at passing the catheter by the touch alone.

The manœuvre above described is not easy to perform, and requires some practice; moreover, I venture to think that it is by no means the best way of passing the catheter, and that there are several objections to it.

In the first place, it increases the risk of cystitis, as it is impossible to be sure that the orifice of the urethra and its immediate neighbourhood have been wiped free from discharge unless they are clearly seen, and some of this may be carried into the bladder on the catheter.

Then, again, the manipulation about the external genitals introduces an added risk of septic infection, and, as shown in Dr Knyvett Gordon's paper, septic infection during the lying-in period is much more common than is usually supposed.

Before passing the catheter a clear view should always be obtained of the urethral orifice; this can be done with the patient lying on her back

by separating the labia with the fore and middle fingers of the left hand. The urethral orifice and its neighbourhood should then be cleansed with an antiseptic, and the catheter, which is held in the right hand, inserted. It is, in my opinion, better to use a small basin to catch the urine than to attach a tube, as the latter makes the catheter more difficult to manipulate, and a further disadvantage is that it is not so easy to see if the urine is escaping properly.

* A glass or metal catheter should be used; the latter is perhaps safer for a nurse's use, as cases have occurred in which a glass catheter has been broken during the movement of restless patient. The catheter is best rendered aseptic by boiling.

It is a good plan to allow the patient's body to be lifted up in bed into the vertical position, after the third or fourth day, for a few minutes daily, to facilitate the escape of the lochia. Care should be taken that the patient does not lie too persistently on the back, and she should be encouraged to lie on either side at intervals. There can be little doubt that many cases of retroflexion arise from the too persistent assumption of the dorsal decubitus during the puerperium.

As regards length of puerperium, I am accustomed to regard a fortnight as the minimum period after a normal confinement; few women realize the importance of sufficient rest after parturition.

My experience in the out-patient room has led me to the conclusion that almost all the cases of bad procidentia, which are so numerous and so unsatisfactory in treatment, are due to women getting up too soon after confinement and, whilst the uterus is heavy and its supports lax, doing hard work.—*The British Medical Journal*, June 30, 1906.

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গৃহে গৃহে হোমিওপ্যাথিক প্রচার উদ্দেশ্যে এই পুস্তকখানি সরল-ভাষায়, সুলভ মূল্যে প্রকাশ করা হইয়াছে; এই পুস্তকে নতুন ব্রতী চিকিৎসকদিগের জন্য আমরা প্রত্যেক পীড়ার নির্দিষ্ট ঔষধগুলির সচরাচর ব্যবহৃত ক্রম উল্লেখ করিয়া দিয়াছি, গৃহস্থ ও শিক্ষিত বামাগণ পরামর্শ ইহা দেখিয়া সহজে তাঁহাদের সম্ভাব্য সম্ভোগের চিকিৎসা করিতে পারিবেন। মূল্য—১০ আনা মাত্র।

ওলাউঠা চিকিৎসা।

ওলাউঠা বা কলেরা অতি সাংঘাতিক পীড়া, হোমিওপ্যাথিক মতে চিকিৎসাই ইহার একমাত্র উপায় তাহা বোধ হয় সাধারণকে আর বুঝাইতে হইবে না, তবে প্রথম হইতে সঠিকভাবে চিকিৎসার আবশ্যক। সেই জন্য প্রত্যেক গৃহস্থের একখানি কলেরা পুস্তক ও কিছু হোমিওপ্যাথিক ঔষধ রাখা কর্তব্য। রোগীর শয্যাপার্শ্বে বসিয়া বড় বড় বাশি রাশি পুস্তক হাতড়ান অপেক্ষা ইহা হইতে অতি সহজে, অতি শীঘ্র, রোগের লক্ষণ দেখিয়া ঔষধ নির্বাচন করা শ্রেয়ঃ, ইহার ভাষা অতি সরল, মূল্য—১/০ আনা মাত্র।

সাধারণ মূল্য—মাদার টিং প্রতি ড্রাম ১/০, ২ ড্রাম ১১/০, ১ম হইতে ১২ ক্রম পর্যন্ত ১০, ২ ড্রাম ১০/০, ৩০ ক্রম ১০/০, ২ ড্রাম ১১/০, এককাদীন ৫- টাকার ঔষধ লইলে শতকরা ১২ ১/২ হিঃ কমিশন পাইবেন। পত্র লিখিলে সচিব কাটালগ পাইবেন।

বটকুঞ্চ পাল এণ্ড কোং,

এস্টে হোমিওপ্যাথিক হল, ১২ নং বন ফিল্ডস্ লেন, কলিকাতা।

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THE TOXIC PRINCIPLES OF THE FRUITS OF
LUFFA ÆGYPTIACA MILL (BITTER VARIETY.)*

Tita Dhoondool.

By RAI CHUNI LAL BOSE BAHADUR, M.B., F.C.S.,
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The plant belongs to the Natural Order Cucurbitaceæ and to the genus Luffa.

The edible variety of Luffa Ægyptiaca Mill (Beng. Dhoondool) is cultivated in many parts of Bengal, and the fruits are largely eaten by the poorer classes either simply boiled or made into a curry. The bitter variety is avoided as being poisonous; it can scarcely be distinguished from the edible plant except that its fruits are a shade darker in colour and their taste is extremely bitter.

Voigt in his *Catalogue of plants* mentions the bitter variety of the plant, as bitter in every part, and its fruits violently cathartic and emetic. I have, however, been unable to find on record a single case in which its use by mistake for the edible variety has been attended with toxic symptoms, and it does not appear that its properties have been properly investigated. A case of poisoning by eating the bitter fruits came within my observation in November, 1903, which led me to investigate the chemistry of the fruit. A short history of the case is given below:

* Read at the Calcutta Medical Club on 10th May 1906, and published in the *Calcutta Medical Journal*, September 1906.

HISTORY.—On the 20th November 1903, a dozen of these fruits were purchased by a neighbour of mine. On the following day a curry was made of some of them with tamarind and other vegetables. This was served to two children both of whom complained that the taste of the curry was very bitter, so much so that one of the children spat it out immediately, but the other swallowed a small quantity; the latter, however, brought up her food in a few minutes. No further symptoms were observed in these two children.

D. M., my neighbour, an old man of 70, had on the next day a curry made of a couple of these fruits and took the whole quantity with his day-meal at about 1 p.m. He noticed that the taste of the curry was very bitter, but as he was particularly fond of bitter vegetables, he thought this fruit would be quite as harmless as the others. About 15 minutes after taking the meal, he complained of feeling uneasy and brought up a large quantity of food. This was soon followed by diarrhoea. Up till 4 p.m. he vomited twice and passed 8 copious watery stools containing undigested fragments of the fruit. When seen by me at 4 p.m. he was found to be very low, pulse very small, feeble, limbs very cold and covered with clammy perspiration; there was extreme prostration; the patient was dull but quite conscious and answered questions rationally; he complained of pain in the abdomen and was getting cramps in the extremities. His voice was very feeble. He was given diffusible stimulants, brandy, and small doses of Calomel at regular intervals. He passed three more stools during the night and two on the next morning. After this, the general condition of the patient and the character of the stools gradually improved and he made a slow recovery.

Botanical Characters.—I obtained four of these fruits from the patient. The largest was 7 inches long and $1\frac{1}{4}$ inches broad at the thickest part. It was nearly straight, only slightly bent towards the extreme apex and had 10 slightly depressed linear furrows on the surface running lengthwise and almost equidistant from one another. The color was light-green, with greenish-yellow patches here and there in the centre. It was soft to the

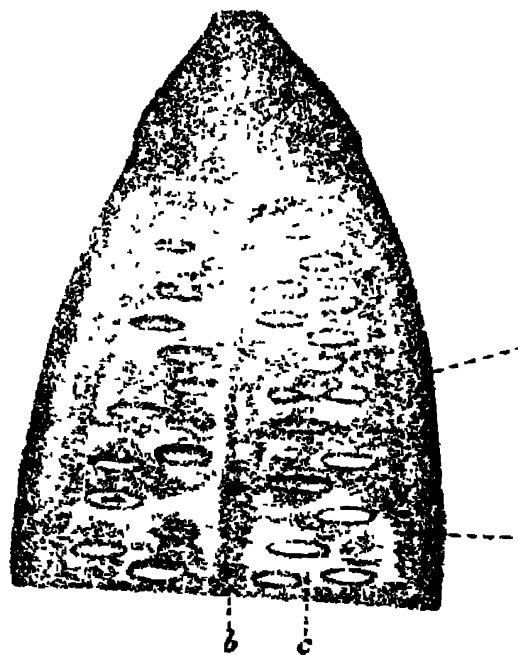
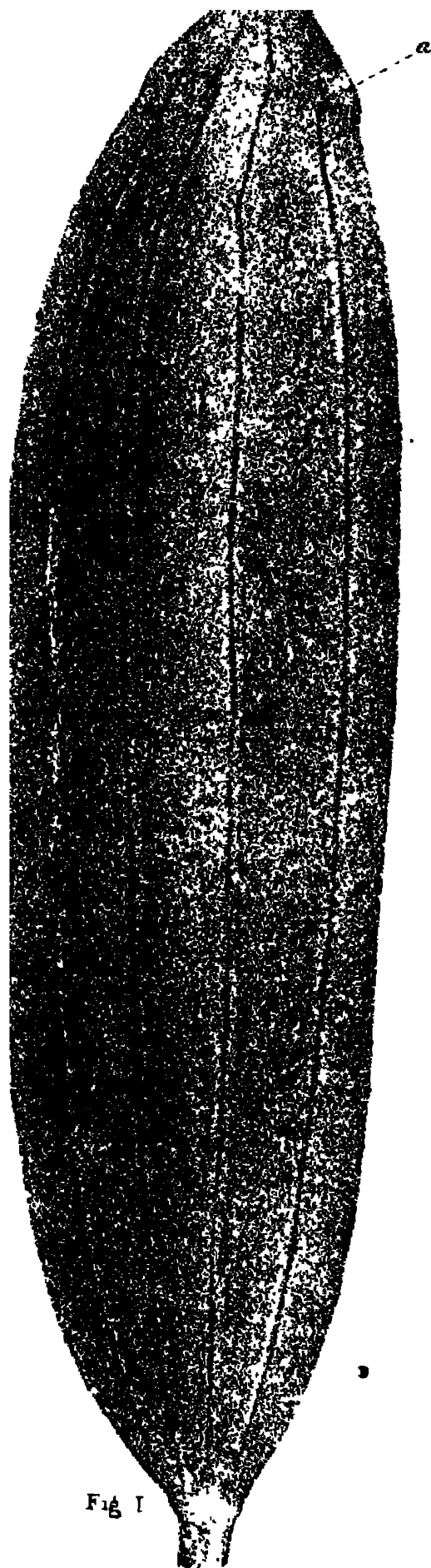


Fig III
(Longitudinal Section)

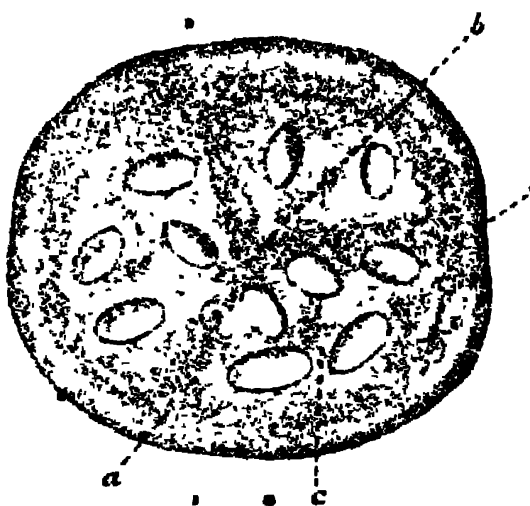


Fig II
(Transverse Section)

feel but here and there a few hard spots were noticed. On pricking the fruit, a frothy colorless juice oozed out. The operculum (Fig 1, a) was $1\frac{1}{8}$ " long and 1" broad at the base. Fig 1, gives the natural size and color of the fruit. The smallest fruit was $4\frac{1}{4}$ " long and $1\frac{1}{8}$ " broad at the thickest part. It was quite straight and uniformly soft to the feel. The other two fruits differed only in size, from the rest.

On section, the interior exhibited a whitish soft spongy tissue in which white flat seeds were found embedded. There was a thick ring of white fibrous trabecula just underneath the skin extending throughout the whole length of the fruit (Fig II & III, a). Three partitions of the same tissue ran in from the peripheral ring and met at the centre (Fig II & III, b), thus dividing the space inside into three chambers of unequal dimensions, filled up with soft white spongy tissue in which seeds were embedded (Fig II & III, c). The thickness of the trabecula was not uniform, it measured from $\frac{3}{8}$ " to $\frac{1}{8}$ " and was very rough to the feel. It darkened on exposure to air. The average thickness of the green skin was $\frac{1}{16}$ " (Fig II & III, d).

The younger fruits, on section, exhibited the same characters, with this difference that the trabecula was thinner and softer, the white spongy tissue more abundant and the seeds were smaller, softer and numerically less. The fruit was very bitter to the taste and had the ordinary smell of vegetable tissue.

Chemical Analysis :—The drug was submitted to the following two separate methods of analysis :—

1. ORDINARY ALKALOIDAL EXTRACTION METHOD.
2. DRAGENDROFF'S METHOD.

The fruits were cut into very thin slices and allowed to dry in the shade at the ordinary temperature of the laboratory and then in the sun till they became quite crisp, when they were finely powdered. This powder was used in both the methods of analysis.

Moisture :—The sun-dried substance yielded 3.5 per cent of moisture.

Ash :—The *ash* was 7.5 per cent. It was partly soluble in water; the solution was alkaline and contained chlorides, sulphates and carbonates of the alkali metals. The insoluble portion of the ash was of a rusty color and contained an appreciable quantity of iron.

1. *Ordinary alkaloidal extraction method.*

Ten grammes of the powder were macerated in rectified spirit for 6 days and filtered; the magma was again exhausted with rectified spirit for another two days and filtrates were mixed together and evaporated to a thick consistence at a low temperature.

The alcoholic extract was of a dark yellowish green color and very bitter. It was placed on a water-bath and then treated with warm water which took up most of the extract forming a reddish brown turbid solution which became more turbid on cooling. The solution had an acid reaction.

The turbid aqueous solution was next agitated with ether when a quantity of a dark brown flocculent substance separated, floating between the watery and the ethereal layers. The ethereal solution was separated and allowed to evaporate spontaneously to dryness; a dark yellowish-green residue was left, having a faint aromatic odour (A).

The dark brown flocculent substance was carefully separated, repeatedly washed with ether and dried by exposure to air. The residue was a brown amorphous deposit (B).

The aqueous solution was next rendered alkaline with carbonate of soda and agitated with ether. The ether on evaporation, left traces of a whitish deposit which under the microscope was found to contain many dark-colored needle-shaped crystals with amorphous matter and oil globules. The residue was treated with dilute hydrochloric acid, the acid solution evaporated to dryness and tested for alkaloids with negative results.

The ethereal residue (A) :—When examined under microscope, was found to consist of greenish drops of oil, much brownish amorphous matter, a few stellate crystals and a large number of thin colorless crystalline plates which resembled cholesterol

crystals. The residue was repeatedly washed with petroleum ether which removed much of the green coloring matter and a small quantity of whitish waxy substance devoid of any bitter taste. The portion of the residue insoluble in petroleum ether was of a greenish-yellow color, crispy and was very bitter to the taste. It weighed .058 gramme. This was first treated with cold water in which it was apparently insoluble but the water gave a faint acid reaction. Boiling water was next used when much of it became soluble forming a clear yellowish solution which however became turbid on cooling. The solution had a very bitter taste and strong acid reaction. The cold turbid solution was next agitated with ether which practically removed the turbidity. The ethereal solution on spontaneous evaporation left an almost colorless transparent varnish-like mass, having very bitter taste. It weighed .02 gramme. It was redissolved in boiling water and the aqueous solution was tested with the following reagents:—

- | | | |
|--|-----|--------------------------|
| 1. Tannic Acid | ... | a whitish precipitate. |
| 2. Meyer's reagent | | no precipitate. |
| 3. Ferric chloride | | slight green coloration. |
| 4. Boiled with dilute sulphuric acid, neutralised, and then treated with Fehling's reagent | ... | Reduction. |

Gramme .01 of this transparent varnish-like ethereal residue was dissolved in hot water and introduced into the stomach of a healthy adult cat at 12-15 P.M.

12-41 P.M.—Vomited about an ounce of a yellowish frothy liquid.

12-51 P.M.—Vomited a similar stuff with two round worms.

1-20 P.M.—Respiration hurried; the animal is restless, constantly changing its position; voice very feeble.

1-40 P.M.—Had a healthy motion.

2-50 P.M.—Respiration very hurried; seems to be much exhausted.

3- 3 P.M.—Had another thin motion.

3-27 P.M.—Had another thin motion mixed with mucus and tinged with blood; there was much straining at defæcation;

respiration still very hurried; the animal seems thirsty and is much exhausted.

The cat had two loose motions mixed with blood and mucus during the night and vomited once more. At 2-30 P.M. on the next day, the animal once more vomited a small quantity of a pale yellowish white liquid and *had a motion consisting of mucus and blood only*. It refused food for two days.

The dysenteric condition continued for two days and the animal remained very weak and exhausted. It made a slow recovery.

The portion of the ethereal residue (A) which was insoluble in boiling water consisted of a greenish sticky matter devoid of bitter taste. It was treated with cold ether, which dissolved a portion of it only. The soluble portion on evaporation left a dark greenish sticky residue. It had an acid reaction and readily dissolved in weak caustic soda and was reprecipitated on the addition of acetic acid. It was found to possess the characters of an *acid resin*. The part insoluble in ether was of a dark greenish color and was also insoluble in boiling water. It was administered to an adult cat but the animal developed no toxic symptoms.

Dark-brown flocculent substance (B) :—It had no bitter taste and produced no poisonous symptoms when administered to a cat.

2—DRAGENDROFF'S METHOD :—

Ten grammes of the powder were used.

(1) Petroleum ether extract ... 2 per cent.

It was of a yellowish-green color, unctuous and contained a number of stellate crystals. Taste not bitter. It contained a fixed oil which thickened on drying. It contained no alkaloids.

(2) Ether extract ... 1.26 per cent.

The residue was of a greenish-yellow color, oily, had no bitter taste and contained no alkaloids.

(3) Absolute alcohol extract 9 per cent.

It was a brownish-yellow, transparent, resinous-looking deposit. It formed a turbid solution with cold water which was bitter to the taste and acid in reaction. The turbidity cleared on boiling.

The extract was treated with warm ether, in which it was found practically insoluble; the ether took up only traces of an oily substance. It was next treated with chloroform in which it mostly dissolved, a small quantity of a reddish granular matter remaining insoluble. The chloroform solution was filtered. The filtrate on evaporation left a pale, dirty, yellow, transparent residue, extremely bitter to the taste, slightly soluble in cold water which showed a slight acid reaction. We shall call this residue C. It gave a white flocculent precipitate with Tannic acid and a slight green coloration with Ferric chloride. It gave no precipitate with alkaloidal reagents.

The portion of the absolute alcohol extract, which was insoluble in chloroform, was repeatedly washed with chloroform and then dissolved again in absolute alcohol and evaporated to dryness. It formed a brownish transparent varnish-like deposit; we shall call this residue D. It formed a turbid solution with cold water, having an acid reaction and a bitter taste; it became clear on boiling.

·02 gramme of D was administered to a healthy cat. No vomiting took place. About 4 hours after the administration of the drug, the animal had a soft healthy motion and then four more in the course of a few hours; these motions were soft and feculent but contained much mucus and blood. The cat developed no further symptoms. The active principle D thus appears to be a brisk cathartic.

The chloroform residue C was next treated with boiling water with which it formed a turbid solution, a small quantity of dark brown flocculent matter separating and settling at the bottom.

The dark brown flocculent matter was carefully separated, well washed with water and dried on a water bath. It weighed ·010 gramme; I shall call this (a). It was dissolved in a few drops of rectified spirit; a small quantity of water added and the turbid mixture was introduced into the stomach of a cat at 12-18 P.M.

1- 6 P.M.—Vomited about an ounce of a whitish frothy fluid.

1- 8 P.M.—Vomited again about 2 or 3 drachms of a similar stuff.

- 1-17 P.M.—Vomited again a similar stuff.
 1-30 P.M.—Vomited again a similar stuff.
 2- 5 P.M.—Vomited again and had a semi-solid motion.
 No more motion or vomiting; no further symptoms.

The chloroform extract C when taken up with boiling water formed a turbid solution which did not become clear on agitation with ether. The ether when separated and evaporated left traces of a greenish deposit having no bitter taste. After the separation of the ether, the watery solution was evaporated to dryness on water bath. The residue was brownish, transparent and varnish-like and had a very bitter taste, and I shall call it (b).

0.16 gramme of this residue was dissolved in a few drops of rectified spirit, a small quantity of water added to it and the fluid was introduced into the stomach of a healthy adult cat at 12-22 P.M.

- 12-27 P.M.—Vomited a thin brownish frothy fluid (about 1 oz.);
 frothy saliva escaping from the mouth.
 12-31 P.M.—Vomited again a similar stuff; much salivation.
 12-37 P.M.—Vomited again a whitish frothy fluid.
 12-42 P.M.—Vomited again a similar stuff.
 12-48 P.M.—Had a healthy motion.
 12-50 P.M.—Vomited again a similar whitish frothy fluid;
 breathing hurried; is dull; voice almost inaudible.
 12-56 P.M.—Vomited again.
 1- 7 P.M.—Vomited again.
 1-30 P.M.—General condition much the same; respiration
 hurried and irregular; voice still inaudible; is
 * much exhausted; pupils normal.
 1-50 P.M.—Had a copious thin motion mixed with mucus.
 2- 7 P.M.—Vomited about $\frac{1}{2}$ ounce of a pinkish frothy fluid.
 3 P.M.—Vomited a small quantity of pinkish frothy liquid.
 4 P.M.—No more vomiting or purging; the animal is
 very weak and dull.

The cat remained very weak on the next day and refused food;
 it slowly recovered.

It will thus be seen that these residues (a) and (b) are evidently one and the same substance; they possessed marked irritant action on the stomach producing severe vomiting in the cats; they differed from the ethereal residue (A) obtained by the ordinary alkaloidal extraction method in causing only slight irritation of the lower bowels.

(4) Aqueous extract ... 1.68 per cent.

The dried extract was brownish-yellow and transparent. It had no bitter taste. It was found to contain tannin.

15 grammes was dissolved in a small quantity of water and introduced into the stomach of a healthy cat. The animal developed no toxic symptoms.

Conclusion:—It will be seen that more satisfactory results were obtained by Dragendorff's method of analysis than by the ordinary alkaloidal extraction method. By Dragendorff's method we could separate two distinct toxic principles from the fruit, viz., (1) a severe *emetic*, and (2) a brisk *cathartic*. The ethereal residue (A) obtained in the ordinary alkaloidal extraction process appears to be a mixture of these two principles, as it produced both vomiting and purging when administered to a cat. The residue left by the evaporation of the absolute alcohol extract in the Dragendorff's method of analysis also contained these two principles, one of which (C) was soluble in chloroform and the other (D) insoluble in that reagent. (C) in both its divisions (a) and (b), which are probably one and the same substance, produced severe vomiting in the cats but it was only slightly irritant to the lower bowels. (D) however seemed to possess no emetic properties, at least in the dose (.025 grammes) in which it was administered to the cat but it caused much irritation lower down in the bowels giving rise to dysenteric symptoms.

The active principles obtained from this fruit differed greatly in their physiological action from that obtained by the late Dr. Warden from the fruits of *Luffa Echinata* (Bindal) which also belongs to this genus, inasmuch as the latter was found to develop profound nervous symptoms, such as spasms, convul-

sions and paralysis of the limbs, dilatation of the pupils, &c. (see pharmacographia Indica Vol. II, page 83). These nervous symptoms were absent in the present case. They however agreed so far that they all possessed irritant properties.

One of the active principles, viz., D, from its physical properties, its chemical behaviour and its physiological action appears to resemble closely *Colocynthin*. Both the active principles are glucosides.

My thanks are due to Dr. H. L. Sinha for his help in conducting this investigation, and also to Captain J. A. BLACK, I. M. S., for kindly looking over the paper.

In the subjoined table, a list of the more important plants belonging to this Natural Order is given. The sweet varieties are largely used as food; the bitter varieties are mostly poisonous and are used medicinally only in small doses. It is believed that the edible varieties owe their freedom from poisonous properties to cultivation.

BOTANICAL NAME.	VERNACULAR NAME.	USES.
1. <i>Citrulus Colocynthis</i> .	Beng. Indrayan ...	Active principle colocynthin, is a glucoside; violent cathartic; fatal in large doses.
2. „ <i>Vulgaris</i> ...	„ Turmooj ...	Common water melon, largely used as an article of food. The seeds of the bitter variety <i>Citrulus Amarus</i> are used as purgative.
3. <i>Cucumis Trigonous</i>	Hind. Bislumbi ... W. India. Karit ...	Fruits of the wild variety used as purgative like colocynth. The ripe fruits of the cultivated variety are eaten.
4. „ <i>Melo</i> ...	Beng. Kankur ...	Seeds used as Diuretic. Fruits eaten in unripe and ripe conditions.
5. „ <i>Sativus</i> ...	„ Sasa ...	Seeds used as diuretic. Unripe fruits largely eaten.

BOTANICAL NAME.	VERNACULAR NAME.	USES.
6. Cucumis, Pepo ...	Beng. Bilati Kumra.	Cultivated and used as vegetable.
* 7. Lagenaria Vulgaris	„ Laoo ...	Fruits ordinarily called bottle gourd; used as vegetable. The bitter variety (Tita laoo) is a powerful emetic and purgative.
8. Trichosanthes Palmata.	„ Makal ...	The fruits possess a bitter principle which resembles to some extent colocynthin.
9. „ Dioica ...	„ Patal ..	Cultivated and largely used as vegetable. The bulbous part of the root, is believed to be a hydragogue cathartic.
10. Cucumerina ...	„ Ban-patal ...	This is the wild variety and is used as medicine.
11. „ Anguina ...	„ Chichinga ...	Cultivated for edible fruits.
12. „ Cordata ...	„ Bhooi Kumra...	Used for medicinal purposes.
13. Momordica Charantia.	„ Karola & Uccha	Fruits bitter and wholesome; largely used as vegetables. The wild variety of karola is believed to possess toxic properties.
14. „ Colchinchinensis.	„ Kakrol ...	Used as medicine after delivery.
15. „ Cymbalaria	Mar. Kadavanchi ...	Tuber used in Bombay Presidency as abortifacient. It contains a bitter glucoside.
16. Luffa Echinata ...	Beng. Bindal ...	Used medicinally in many parts of India. A bitter active principle like colocynthin was extracted from the fruit by the late Dr. Warden; 01 gramme of this

BOTANICAL NAME	VERNAICULAR NAME	USE.
16. <i>Luffa Echinata</i> (<i>contd.</i>)	Beng. Bindal	substance proved fatal to an adult cat. Used also as an abortifacient. One fruit proved fatal with symptoms of cholera.
17. <i>Amara</i> Roxb.	Beng. Ghosalata, ...	Fruits emetic and cathartic; supposed to possess diuretic properties also.
18. <i>Acutangula</i> Roxb.	" Jhinga ...	Both cultivated and wild variety bitter and poisonous. Fruits of the cultivated variety used as vegetable.
19. <i>Cephalandra indica</i>	" Talakucha ...	Root and juice of the leaves used medicinally, the wild fruit is very bitter.
20. <i>Zaneria Umbellata</i>	" Toruli or Kudari	Fruits and root used in medicine.
21. <i>Corrallocarpus Epigaea</i>	Sans. Mahamula ...	Contains a bitter principle which is the same as bryonia; used in dysentery and venereal complaints.
22. <i>Bryonia Laciniosa</i>	Sans. Bafa eng. Mala	The whole plant is bitter; it contains a bitter principle similar to Bryonia.
23. <i>Mukia Scabellia</i>	Sans. Ahilekhan (marked like a snake)	The herb is considered to be gently aperient and stoniac.
24. <i>Zanonia Indica</i>	Sans. Dirghapatra Kuntali or Tiktaka	Aperient; considered beneficial in asthma.
25. <i>Medeca Palmata</i>	Not known ..	Believed to possess severe irritant properties. A fatal case occurred in Madras in 1896.
26. <i>Eballium Elaterium</i>	Katri Indrayan of Indian Bazzars (not indigenous but im- ported from Persia)	Powerful cathartic; active principle, Elaterin.

TREATMENT OF WHOOPING COUGH.

BY DR. PAUL CHIRON, M.D.

(Continued from p. 316).

Scilla Mar.—Cough characteristic of whooping cough with intense attack, slight during the day; but each night between 11 P.M. to 3 A.M., sudden attack of suffocation extremely painful, loss of respiration, the child relieves himself by standing up, then he falls down on his back as if he would be choked up, gradually the respiration comes back with wheezing during inspiration; a second attack follows, more lightly than the first and the rest of the night is relatively peaceable. If the child drinks cold water, even in so small a quantity that can be taken, the cough immediately comes back and with violence (the contrary with *Cuprum*.) Involuntary micturition after each attack of cough. No sweat.

Sepia.—Cough day and night, but principally in the morning with efforts to vomit and complete loss of respiration. Cough reappears by fits which succeed rapidly, and it is only after this that the chest is horribly shaken; it brings up nausea and vomiting, which lead to the throwing up of more or less abundant mucus. Great thirst, fever, insomnia. At the fold of the joints, in the neck and ears, redness and excoriation which exude serous fluid of bad odour.

Senega.—Fat-cheeked children, attack more violent at night, (*Kali Bich.* more violent in the morning) with clear viscous expectoration as of white of egg; difficult to spit, sensation of weight which bruises the chest.

Silicea.—Spasmodic cough excited by words in the supra-sternal fossa. In the evening and at night without expectoration; during morning and in the day expectoration of mucus yellow, purulent, viscous, acrid, more rarely of clear frothy blood, of oily taste and irritant odour. Aggravation at the change of weather, before a storm, at the change of moon, after eating hastily or cold food. The child is obstinate and cries; headache with throbbing; epistaxis with acrid and corrosive blood;

thirst, vomiting of cold drinks and food followed by bile. Sensation of intense burning in the abdomen of children; expulsion of wind. Coryza fluent and acrid with enough sneezing; deep respiration; stiffness of the chest with prickings which extends to the back. Foetid sweat of feet. Swelling and coldness of feet.

Spongia.—Sporadic cases of whooping cough. Cough with hoarseness and sensation of a plug in the throat, provoked by movement and decubitus on the right side or back; amelioration by sitting position, eating and drinking; aggravation by cold air, from excitement, and movement. Painful sensation of pressure and contraction which extend to the whole chest. Respiration rapid, anxious, irregular; abundant secretion of mucus; yellowish or whitish expectoration with enough trouble. Viscous sweat. Prostration.

Sticta Pulmonaria.—Spasmodic attacks; cough dry and noisy and barking, excited by tickling in the larynx which finally extends to all the chest. Cough almost nothing during the day, reappears towards 6 p.m., and continue during the whole night, with exasperation at midnight and in the morning. Excessive dryness of the pituitary region which is painful. The mucous secretion in the nose soon dries up and is not expelled, unless by great effort in the form of crusts. Frontal headache.

Stramonium.—Cough dry, spasmodic, convulsive. The attack comes more particularly at night leaving the child completely exhausted. The convulsive form is the principal indication of the medicine; to the violence of the fits are added the violent spasmodic movements of the extremities; almost always during convulsion the left arm is crossed with the right leg and *vice versa*. Agitation, trembling of hands. Great redness of the face, eyes sparkling and great thirst.

Sulphur.—Whooping cough threatening to be interminable by frequent relapses, which are difficult to be connected with any cause, so that the child can be taken care of and attended. A particular sign of *Sulphur* is a constant inclination to cough,

but the cough is aborted very often, the patient not getting it violently and frequently.

Tabacum.—Violent hiccup after the fit.

Thuja.—Cough only during the day, occasioned by an irritation in the trachea, increased in the morning and followed by a small quantity of sputum, consisting of hard and greenish-yellow mucus. Shallow respiration caused by the presence of mucus in the trachea. Constant eructation when eating. Oily aspect of the skin.

Trifolium.—Spasmodic cough which shakes all the body. Bronchial rales. Asthmatic respiration, sputum abundant, stringy, adherent, as the white of egg.

Veratrum Album.—To children of feeble appearance suffering from slow fever, with accelerated, small and weak pulse, pale countenance, and dull look; who after each fit of cough throw themselves in a complete state of exhaustion, the forehead covered with cold sweat. During the fit of cough, the urine escapes involuntarily. At night without expectoration; during the day, expectoration of yellowish, tenacious mucus, of bitter, salty or acrid and putrid taste. Aggravation on passing from cold to hot air. Great desire for acid things.

To adults as well as children, *Veratrum Alb.* cures violent coughs which threaten suffocation and after it the patient throws himself as if crushed.

Zincum Met.—Exhausting spasmodic cough caused by tickling with spasmodic contraction of the chest. Want of vitality, physical and moral depression. Expectoration during the day of sputum yellow, purulent, streaked with blood, of sweetish, metallic or fresh bloody taste.

—*L'Art Medical, Juin et Juillet.*

REVIEW.

Diseases of children. A Text book for the use of students and practitioners of medicine. Second edition. By C. Sigmund Raue, M.D.

As a text book for diseases of children, it is more comprehensive than many others of its kind. It occupies 756 pages, of which 103 pages are taken up for preliminary considerations. It should be said that the Indian experience differs in many respects from the European mode of feeding infants. In Calcutta we prefer to use all fresh articles of diet, and the artificial foods find little favour, except with those who do not wish to take trouble to procure fresh things which are generally cheap. Ass' milk is of service in cases of diarrhoea of children. Except human and cow's milk we use the milk of ass for the above reason. Dr. Raue first begins with the diseases of the new born. We wish that he should have given us a chapter on infants with premature birth who want immediate attention. Prematurely born children want a kind of help in medicine and diet which does not come within the scope of diseases.

The proper consideration begins with the diseases of the mouth. It is followed by diseases of the stomach, liver and intestines. In the chapter on the diseases of the liver, acute yellow atrophy and cirrhosis of the liver have been considered. They do not include the so-called infantile cirrhosis of the liver which converts the liver tissue into the fibrous variety, so well-known in Calcutta. It is a kind of cirrhosis of the liver and only met with within three years of the age of the infant. This tropical disease wants a separate consideration.

The frequent trouble of an infant is its disorder of the bowels. Dr. Raue has devoted his best consideration on this chapter. He says: "Intestinal digestion is very active in the normal infant owing to the large amount of bile secreted which saponifies the fats and stimulates peristalsis. Trypsin and steapsin are also actively secreted the former peptonising proteids and the latter emulsifying fats. After the third month

the diastatic ferment of the pancreatic juice (amyllopsin) which has the power of converting starch into sugar, makes its appearance, so that it becomes possible for the infant to digest farinaceous foods. This form of digestion is, however, not fully established until the time of the eruption of the teeth, before which time it is unwise to use starchy food unless predigested. The muscular coats of the intestines are poorly developed at this period of life."

Our practical experience differs from the theory that farinaceous foods can not be digested before the third month. We have repeatedly seen that simple boiled arrowroot water stops the diarrhoea of an infant of one or two months.

The next important chapter is the diseases of the respiratory tract. The author has devoted great attention to them. The diseases of the heart, kidney and nervous system have also been closely studied. The constitutional and acute infectious diseases have not been left out. On the whole, the successful production of Dr. Rane adds a value to the homœopathic literature.

Triennial Report on the Lunatic Asylums in Bengal, for the years 1903, 1904 and 1905.

The first thing that occurs in the report is the Ranchi fad. The Inspector-General of Civil Hospitals writes: "It was decided to build a Central Asylum at Ranchi, which, from the point of climate and healthiness, was considered most suitable for the purpose. The land required for the Ranchi Central Asylum, has been acquired, and plans and estimates for constructing the buildings have been prepared and are now under the consideration of Government."

It is a wonder the authorities awakened from their slumber to find that Ranchi is the best sanitarium of Bengal. The consciousness came under the administration of Sir Andrew Fraser.

The most interesting part of the Report is the occupation of the lunatics before the attack of the disease. The largest number of admissions came from cultivators. In 1903-51, 1904-53, 1905-37. The next in order was from persons of unknown occupation, that is, who had no occupation properly so called. Their number in 1903 was 42, 1904-38, 1905-27. The third in series was from labourers; in 1903-24, 1904-26, 1905-34. Then came men of no occupation who gave in 1903-18, 1904-21, 1905-6. The last in the series of poverty is furnished by beggars. They supplied in 1903-15, 1904-23, 1905-18.

* If the facts can be relied on, the inevitable conclusion is that from poor persons more lunatics are derived than from men of

moderate or substantial means. Not only famine that creates danger to the poverty-stricken people, but nature is also unmerciful by giving them the worst of diseases—lunacy. Another glaring fact is that ganja smoking has contributed 164 and spirit drinking 29 cases in 1905. In the same year, use of bhang gave 5, opium smoking 2, opium eating 6, and all other intoxicants 9 cases. The total of insane persons from intoxicating substances came to 205. While all other causes gave 854 cases. We are forced to conclude that avoidable habits could have saved 205 persons from this dreadful ruin.

Triennial Report on Lunatic Asylums in the Province of Eastern Bengal and Assam. For the years 1903, 1904 and 1905.

According to occupation, the newly created province gives the following number of lunatics: The cultivator is the first in order of number. In 1903-38, 1904-31, 1905-33. The tenancies who are a kind of labourer gave in 1903-15, 1904-21, 1905-22 cases. The third came from persons of unknown occupation. In 1903-9, 1904-7, 1905-7. Beggars contributed their number as well. In 1903-7, 1904-3, 1905-3. From persons of no occupation in 1903-6, 1904-5, 1905-7 cases were derived. From the use of intoxicants the following cases were admitted. In 1905 Ganja smoking 72, opium eating 2, spirit drinking 12, making a total of 87 cases. All other causes contributed 443 cases.

Comparing the two provinces of Bengal, it will be seen that the lunatics mostly come from poor people, and especially from those who are in the habit of using intoxicating substances.

Annual Report of the Chemical Examiner's Department, Bengal, for 1905.

The department has analysed 163 samples of drinking water. The worst of them was the water of the Swet Ganga tank, Puri. It was a significant fact that pilgrim resorts abound with impure water.

The medico-legal department under Rai Bahadur Choonee Lal Bose examined 580 human viscera. The most common poison was opium. Arsenic was next in frequency. The other poisons were aconite, alcohol, yellow oleander, atropine, strychnine, copper salts and mercury salts. Aconite was used in almost all cases for homicidal purpose. In country liquors aconite was added on the mistaken notion of intensifying their action. Dhatura was mixed with *toddy* but atropine was detected in the pot containing *toddy*.

The most interesting case was the poisoning from Cyanide of Potassium. It happened in the police lock-up of Calcutta. "The Police surgeon, who held the *post mortem* examination,

found the lower half of the œsophagus markedly inflamed. The stomach and intestines to about two feet of the pylorus were uniformly and intensely inflamed with small submucous hæmorrhages. The rest of the small intestine and the whole of the large intestine were healthy." Cyanide of potassium was detected in the glass phial from which the deceased took the poison, and Hydrocynnic acid was detected in the distillate obtained from the viscera.

Two cases of poisoning from yellow oleander were noticed. The drug was given to cure hydrocele as a quack remedy.

Dispensary Returns of the Province of Eastern Bengal & Assam for the year 1905.

When the province of Eastern Bengal and Assam was created, it was prophesied that the separation from the Western Bengal will render additional help to the people of the new province. On the 16th October 1905, Eastern Bengal and Assam were united. During the rest of the year no such benefit was noticeable. The increase of 28,122 out-patients was a normal affair. For it mostly happened when the new province was not created. The benefit can not be understood unless a few years pass away after the amalgamation. There may be increase of patients during the year 1906 on account of the famine. The abnormal factor can not be taken into consideration for it vitiates the normal growth.

Annual Report of the Royal Botanic Garden, Calcutta.

Sunn hemp or *Crotalaria juncea* plant was experimented for fibre without success. The niggardly allowance of 3 pages for the report is significant.

EDITOR'S NOTES.

The Meningococcus of Cerebro-spinal Meningitis.

The British Medical Journal, June 16, reports the discovery of meningococcus, the microbe of cerebro-spinal meningitis thus :

"VANSTEENBERGHE AND GRYSEZ (*Ann. de l'Inst. Pasteur*, January, 1906) have studied the characters of a meningococcus, which they obtained by lumbar puncture, during life, from a case of cerebro-spinal meningitis which terminated fatally in two days. They found that the reaction of the coccus, when tested by Gram's stain, depended upon its condition of vitality and its virulence : it varied in different epochs of the life of the microbe, and, when the organism was placed under unfavourable conditions, the capacity to stain by this method rapidly disappeared. The Gram test, therefore, they consider unreliable for diagnostic purposes. Their organism was found to be highly virulent for laboratory animals. When inoculated under the meninges of rabbits or guinea-pigs, it produced a disease completely resembling human cerebro-spinal meningitis, with identical lesions and similar complications. The nervous tissue of the animals which died of this disease was found to be virulent, and preserved its virulence for a long time, though it was progressively diminished by slow desiccation. In the nasal fossae of man, both in health and disease, there is frequently found a microbe possessing the morphological and cultural characters of the meningococcus. This microbe may sometimes prove to be virulent even when taken from subjects not affected with cerebro-spinal meningitis. When virulent, inoculation beneath the meninges of laboratory animals produces an infection analogous to that produced by the typical meningococcus. This germ, normally virulent for man, appears to be the origin of the auto-infection known as cerebro-spinal meningitis just as, under analogous conditions, the pneumococcus produces pneumonia."

In India, we find now and then cases of cerebro-spinal meningitis. They are generally rare. We do not observe in Calcutta of its epidemic prevalence. The interesting fact with regard to certain sporadic cases of meningitis is that the disease occurs as a sequel to remittent fever. It is very difficult to ascribe the introduction of the micro-organism in such cases. The general course is that the patients suffer at first from remittent fever, then suddenly over and above the fever the disease takes place. Will it be reasonable to uphold the introduction of meningococcus in the presence of the bacilli creating remittent fever? Or are we to assume that the first few days of the fever were the premonitory symptoms of meningitis?

The Food Problem.

The Medical Times for July writes thus of the Chicago meat scandal:

"SLOWLY the searchlight revolves, and one after another of the sore spots in American business comes into view. Now it is the Chicago meat men who are having their methods exposed. For cold-blooded economy which stops at no consideration, the recent report of the President's two commissioners is probably unique. In the race for wealth the Chicago meat-packer has trained down to the last ounce. Old buildings, wretchedly paid help, the use of diseased and unfit animals, extreme haste, lack of cleanliness and care all help reduce the cost. Why should the meat-man care? He is counting only his receipts, and he has the safety valve nailed down on his financial craft and his boilers "chuck rosin and pine."

Of course with these examinations there is generally some exaggeration. Investigation is in the air, and investigators are playing to a very willing public. Again, butchering is a repulsive business at best, when done under most favorable circumstances. Place a man not familiar with the life in such surroundings, and naturally everything seems darker than it should. It is hard for a stranger to live the life of the workman and see his work as the worker sees it. He is apt to overrate its effect on mind and body.

It was the writer's privilege to investigate a large factory employing women which had been criticized in a recent magazine article. A young lady unaccustomed to such work, a stranger in a strange land, had lived in that city for a few weeks and worked in the factory. She painted it in sombre colors. She forgot that she was probably homesick and sensitive; that everything was naturally darkened; she had not been accustomed to such work, and it would have been hard for her in any surroundings. Trying to look at this situation, not from the standpoint of a New York girl who was doing unaccustomed work among strangers, but from the standpoint of the girls who actually do the work day by day, I found them happy and healthy. They liked their work, their employers and their surroundings. The workshops were clean and sweet, ventilation was good, the work was not hard, and the pay fair. They had nice dining-rooms, excellent gymnasiums, a lecture room, and ballroom. In fact there was a strong desire to "get a job" there among the working people. So undoubtedly these pictures are overdrawn, perhaps unconsciously, but still overdrawn. A young literary man, full of nerves and tingling with feeling, drops down among butchers doing repulsive work and he sees their lives, not as they see it, but as it seems to him. Naturally the picture does not lose force as it is sketched by his hands and such a book as "The Jungle" follows.

Undoubtedly matters in Chicago need reforms, and we will have them. The packers will find it good business policy to supply clean goods prepared in a clean way. Good efficient work must in the end always be rewarded. The question of frozen meats is a broad one at the best. It is a problem how fit for food is meat that has been

frozen and thawed several times, or has stayed frozen for a period. It unquestionably loses its sweetness and palatableness and is harder of digestion. In other words, it is less fit for human consumption. If, as a result of this investigation, local abattoirs would spring up, it would be a great help in the solution of the problem. Except as a saving of expense it should not be necessary to kill all cattle in Chicago; various strategic points could be established.

Again comes round the old question, Why should we eat meat at all; We have had the recent picture of a nation going to war, performing marvelous feats of mind and body on rations composed largely of wheat and rice. In the march to Peking, some years ago, participated in by American, Russian, English and Japanese soldiers, the grain-eating Jap ran right away from his white brothers in the endurance test; he travelled faster and he travelled in far better physical condition. The question arises, Was this due to his food? Undoubtedly as a nation we eat too much meat. Travel through the slums of a large city where the life is open and we can see the food of the people and we find Americans and the Irish spending their pittances for flesh, while the sturdy German and Italian buys salads, lettuce, green vegetables, etc. In fact, in many cities there has sprung up a race of Italian hucksters who cater to the wants of their people with surprising good vegetables and salads.

Let us remember this: the nation has to be educated that while good meats are essential from time to time, they should not constitute the basis of our diet; that our national tendency to kidney, liver and muscular troubles can be definitely traced now to over-indulgence in flesh food."

"The Jungle" by Upton Sinclair, has exposed the irregularities of the bad business. No amount of words can protect the Chicago meat-packers from hatred and condemnation of sensible men. The simple principle which ought to guide us with regard to our food is, that every article of diet should be fresh. Apart from the hideous business of the meat-packers, preserved meat has its danger of decomposition. The vanity and idleness of men have placed preserved meat in a position to suit our taste. The buyers should be equally blamed for giving indulgence to things which may destroy their health. The question of artificial food next comes to the front. The chemistry of debased and perverted men of intelligence is manufacturing butter from saw dusts. There are hosts of other artificial things in the market to awaken feelings of horror and disgust. If these articles do not produce reluctance to use preserved foods in general, we can not fathom the depth of human perversion.

The Current theories of Uraemia.

The Medical Times of July writes :

"Croftan (*Jour. A. M. A.*, Jan. 6, '06), shows that neither anuria nor the variations of excrementitious nitrogen output suffice to explain this phenomenon. The two most important abnormal conditions which may be deemed characteristic are: A relative increase of the ammonia salts, both of the blood and urine, as compared with normal average values and with the circulating and excrementitious area; and a relative decrease of the urea, both of blood and urine, as compared with normal average values and with the total nitrogen of the circulating and excrementitious waste products. There may also be very toxic albuminoids or alkaloids in the blood or urine that might have an enormous effect without changing to any degree the amount or relative proportions of the nitrogen content. The most delicate tests for inorganic salts give little evidence that uremia is due to salt retention. There must be some poisons acting in the production of uremia. The decreased urea secretion is probably due rather to non-conformation than to retention. It is not increased in the blood as it should be if it were not merely eliminated, and the corresponding increase of ammonia is normally converted into urea. Disturbances of the liver and kidney are often concomitant; they would be found to be still more so if the liver were examined as thoroughly in every case of Bright's disease coming to autopsy, and if mild functional hepatic disorders were as easily recognizable as like renal disorders. Even if the kidneys primarily eliminate toxic matters some of the most important of these must pass through the liver before renal elimination. Even if the kidneys are primarily diseased more work is thrown upon the liver, not only in its disintoxicating function, but also in making up for the waste caused by a leaky kidney. The liver consequently becomes fatigued, its function to disintegrate albumines is impaired, and less urea and more incompletely disassimilated intermediary products of albuminous metabolism are thrown into the circulation. Though this may thus follow or accompany renal disease, it is still due more to hepatic than to renal insufficiency. Hence the importance of considering the liver in cases of uremia. Oftentimes, indeed, instead of stimulating the kidneys, uremia might be prevented by attending to those organs which threaten to fail. There should be rest for the liver—even starvation for a few days; all irritating substances should certainly be eliminated from the diet. Intestinal putrefaction should be reduced to a minimum."

The old theory of uraemia caused by retention of salts or other substances by the kidney is questioned. Dr. Croftan is of opinion that the toxic matters which are retained in the system are due to the functional derangement of the liver. The suggestion wants confirmation. At any rate, the old theory has received rude shock either to be substantiated by experiments or rejected on the basis of facts. Crude hypothesis can no more stand without experimental observations.

Habit in Appetite.

The Medical Times of July writes :

"The so-called cravings of appetite are purely the result of habit. A habit once acquired and persistently followed soon has us in its grasp, and then any deviation therefrom temporarily disturbs our physiological equilibrium. The system makes complaint and we experience a craving, it may be, for that to which the body has become accustomed, even though this something be, in the long run, distinctly injurious to the welfare of the body. There has thus come about a sentiment that the cravings of the appetite for food are to be fully satisfied, that this is merely obedience to nature's laws. This idea, however, is fundamentally wrong. Any one with a little persistence can change his or her habits of life, change the whole order of cravings thus demonstrating that the latter are purely artificial, and that they have no necessary connection with the welfare or needs of the body. In other words, dietetic requirements are to be founded not upon so-called instinct and craving, but upon reason and intelligence."

The above exposition of our habit points to the fact of acquired character. All acquired characters when remain for a long time, derive the power to assume permanency which can be avoided with difficulty. The influence of habit cannot easily be overpowered, unless great struggle is maintained to regain the lost mastery. The "little persistence" can not easily be maintained. For this reason, most obstinate persons regain their self-possession. Tenacity of purpose is the sole basis to fight out the battles of life. Generally a habit cannot easily be conquered. With great sacrifice we can abjure our subjection to a pernicious habit. It may be at the cost of our life.

Insects as Disease Conveyers.

The following is from *The Medical Times* of July.

"THE very considerable part which insects play in the dissemination of disease has of late years been made manifest. It is *apropos*, the good old summer time, being now well upon us, to consider the manner in which the insects which are rife in our latitudes may convey germs.

Unquestionably the Koch bacillus is distributed by flies. No one can doubt this who has seen the photograph shown in the recent Tuberculosis Exhibition in New York City, depicting a nutrient plate upon which had been deposited a fly that had previously walked in the sputum of a consumptive. A glass cover confined the fly. The plate was at first perfectly clear; presently, however, colonies of bacilli perfectly visible to the naked eye developed along the tracks made by this fly. Unhappily some of our colleagues, supersaturated with enthusiasm, have jumped to the conclusion that the fly is the only, or at least the chief propagator of tuberculosis. It is, for many reasons, a very subsidiary source of tuberculous infection,—especially because we have flies with us only a part of the year, whereas consumption is with us throughout the year and becomes contracted in one perpetual round. The physician should here most emphatically guard against this, as other factors tending to increase phthisiophobia among the laity such as is already rampant to so deplorable a degree. Unquestionably flies help greatly to swell the infant mortality rate, in cities, at least. There are few more congenial culture media than milk, especially amidst the uncleanness which obtains in the homes of the very poor. This fluid easily becomes contaminated with the excreta of flies and with the noxious matter clinging to their feet. Tuberculosis is thus in a measure contracted by children. It is quite certain, also, that infantile diarrhoeas are thus induced.

It is the custom to blame the vendors of milk, from the dairyman to the retail dealer, for many of its impurities. To-day, however, thanks to the work of the Health Department and the County Medical Society in New York City, such impurities are rare: milk is now undoubtedly much more liable to contamination after delivery to the consumer.

Flies certainly disseminate typhoid, although there are, of course, other sources of this infection. Flies pollute food and drink by means of the excreta which they convey from dunghills, manure pits and the like. Typhoid has with some fitness been termed autumnal fever. Many an urbanite has returned from his vacation stricken with this disease. Perhaps not all such cases are due to

tainted wells. While such contributory factors as bad sanitation, wretched diet and lowered vitality are constantly with us, typhoid prevails mostly during fly-time.

Flies certainly disseminate cholera, and some cases of tetanus originate by this means.

The work of Reed, Gorgas and their confreres has made yellow fever practically as rare an entity on this planet as a lunar meteorite. They have proved beyond peradventure that the mosquito *stegomyia* is the medium of infection; that yellow fever can easily be prevented from becoming epidemic; and that the belief formerly held that the infection is conveyed from patient by means of bedding, clothing and the like, is erroneous.

Unquestionably, again, the *anophiles* is responsible for malaria; nor will any one contract this disease who protects himself from the bites of this insect, which is a country and not a city bred variety of mosquito.

There are some who declare that mosquitoes spread leprosy; and it is quite possible that science will in the near future prove this hypothesis to be correct.

The bedbug has from time immemorial been obnoxious enough on his own account. It is now held—and no doubt correctly—that in smallpox epidemics, this disease is most rife in cheap lodging houses; “the houses in which bedbugs are found seem to furnish a steady supply of victims” (*Jour. A. M. A.*). Tubercle bacilli have been found in the blood of the bedbug. Metchnikoff believes that the bedbug forms an intermediate host or at least an agent for conveying intermittent fever, a disease very common in some part of Russia. Dr. Sirault, of our Department of Agriculture, finds that the bedbug (*cimex* or *clinocoris*) may live for many weeks without food. During the winter this insect becomes comatose and may live thus 100 days; some bedbugs have been known to exist eight months. And it is thus that the species is enabled to continue its existence from season to season, in lumber camps, summer residences, empty apartments and the like. Again, it is probable—and this is gruesome and unpleasant enough—the bedbug seems to have other host relations besides those with the *genus homo*. Evidently such relations have great potentiality for disease if these pests attack other creatures than man. Mice and rats, for instance, both living and dead, are attacked by bedbugs.”

Doubt cannot be entertained that insects are the carriers of many diseases. The great question is, can we get rid of the class of insects which are inimical to us? There is now a crusade against

mosquitoes. War is to be proclaimed not only against insects but many of the lower beings, if we want to look for our safety. Then, what about the pathogenic microbes themselves? The poisonous germs are there. The carriers are to be destroyed, but we cannot produce any effect on the pathogenic micro-organisms. The ludicrous affair is that we begin at the wrong end.

Vegetarianism.

The Medical Times for July has the following note :

It is an unpleasant aspect of cosmic life that all living creatures, from microbe to man, prey and feed upon one another. Nay, more than this, the process seems to extend far back of what we call sentient existence, back even to what we perhaps erroneously term inorganic matter. Let us begin with the granite in the hillside, which is made up of carbon, oxygen, hydrogen, nitrogen, and the like. In the course of æons does this rock undergo disintegration and become the soil in which plant-life may thrive. Indeed even in the rock we will find sentient existence, animalcular, microscopic—but nevertheless manifestation of life is here found. In the soil, under solar influence, seeds germinate and thrive, and vegetation results. Then, as Paulson so well puts it in his introduction to the study of Philosophy, somehow (we know not the manner of it) under the influence of the "vital principle," concerning which we discourse so wisely, but of the nature of which we are absolutely ignorant, minute animal life appears, and in order that it may exist and multiply, subsists upon the vegetation about it. And so the field mouse thrives upon the grain. Presently there appears a larger animal who kills and eats the field mouse, in order that it may itself be nourished and exist. And thus does this cruel process in nature go on constantly, the stronger animal destroying the weaker. Thompson-Seton was criticized that in his stories his animals all died tragic deaths. But he quite rightly justified himself by the statement that such is the case in nature; that seldom does an animal die a natural death. This is life. The highest type of living thing—at least so we complacently hold ourselves—cannot escape this law of life. The cattle which we eat must suffer in order that we may subsist; they have to, for we are superior to them in this at least—that we know how to destroy them for our benefit. They are a great convenience for us, as well as a necessity. Their huge digestive apparatus can convert the grains of the field into a form which we find easily assimilable. We do not now kill the steer in the unpleasant fashion

of our primitive ancestors ; we simply relegate this business to certain of our brethren who are ready to undertake exclusively this indispensable function. But the principle is the same. It is Mother Earth's roundabout way of supplying us with the elements essential to our existence—the carbon, the hydrogen, the oxygen and the rest, which lie dormant in the great storehouse of nature.

We set forth here quite an obvious and fundamental proposition, but it is one which the vegetarian constantly ignores in his philosophizing. There is no use in ignoring or in defying the great and inexorable fact of life. Some vegetarian experiences are rather diverting as illustrating the extent to which a well-meaning citizen will go in a "logical course" based upon mistaken premises. There are those, for instance, who begin with eating no meats ; presently they eschew eggs and milk, considering it a shame to deprive the hen and the cow of provender which is their own, and of which they should not in justice be deprived. Next, perhaps, the enthusiast is taken in hand by a missionary of "sun-kissed food". He eliminates everything that does not grow in the full sunshine. Clearly, potatoes and turnips are just as bad as a steak or a leg of mutton. A scientific statement or two are not here amiss. Rottermann, of Cincinnati, declares that most vegetarians have dilated stomachs and intestines, resulting from the accommodation of large quantities of food necessary to supply their wants. The powers both of resistance to great exertions, as well as the neutralization through the activity of organic cells, leucocytes, etc., the poisonous influence of disease, is much decreased, while convalescence is considerably prolonged." Swan, who has studied the *metabolism of a vegetarian*, finds that such diet is not "calculated to produce a properly nourished and mentally and bodily active person. He finds that the literature advocating vegetarianism contains no accurate scientific analysis of the requirements of the human organism ; and the arguments advanced in favor of such a regimen are either pseudo-scientific or sentimental."

It is true that in lower life there are herbivora as well as carnivora. The point at issue is, what should be the life of man ? The plain answer is, man must accommodate himself according to the exigency of season and climate. His diet should be according to the necessity of living and the nature of work. The fact generally observed is that habit takes predominancy. A meat-eater is a meat-eater wherever he may go, whether in the cold, temperate or hot countries. He does not change his food according to the necessity of living. The out-come of our experience is that man should be accommodating.

CLINICAL RECORD.

Foreign.

FIVE CASES—DIPHTHERIA, URETHRAL CARUNCLE,
• AXILLARY SINUS, DYSPEPSIA WITH OFFENSIVE
URINE, MALARIAL NEURALGIA.

By T. G. STONHAM, M D.

CASE I.—DIPHTHERIA.

I was called on October 31, 1902, to see Mr C. P., aged 17, who had been sent home from Westminster School because he had a suspicious-looking sore throat. There was an epidemic of diphtheria in the school at the time. On examination, the left tonsil was found to be covered with a dirty-looking adherent membrane. The temp. was 104° and pulse 110. There was no pain on swallowing, and with the exception of the fever, the patient did not seem ill. A swab was taken from the throat and sent to a pathological laboratory for examination. I received a report stating that the Loeffler bacillus was present.

He was given *Lachesis* 30, a few drops in a tumblerful of water, and a dessertspoonful to be taken every hour. In the evening the symptoms were much the same, and there was a little tenderness of the glands of the neck on the left side.

November 1st—Has slept well Temp. this morning 101°, pulse 110. The patch of membrane has increased slightly, and there is a point of exudation on the right side Continue *Lachesis*. Evening: Temp. normal, pulse 80 No pain. Throat looks much the same.

November 2nd.—A good night. Temp. and pulse normal. Membrane beginning to clear from the left tonsil and no spread of that on the right Continue *Lachesis* 30 every three hours. Evening: Temp. and pulse normal.

November 3rd.—Temp. 97.5°. Pulse 64. Throat nearly clear of membrane. Appetite returning,

From this time convalescence was uninterrupted, but he was kept in bed another week because the pulse was slow and there was a tendency to giddiness on sitting up. He then went to the seaside. There was no subsequent paralysis or sequelæ of any kind.

CASE II.—URETHRAL CARUNCLE

M. W., aged 27, a dressmaker. For eighteen months has had much pain in the urethral orifice on passing water, of a scalding

character; the pain is before, during, and after micturition. No difficulty in holding the water and no urging to urinate; can often hold the water all day. Constant profuse leucorrhœa, yellow, ex-coriating, and sometimes blood-tinged.

Catamenia regular—last two or three days—scanty, bright, and fluid, sometimes great pain on the first day in the hypogastrium. Dragging and bearing-down pains on standing or walking much, > lying down. Bowels regular. No piles. Appetite poor. Bad taste in mouth in the morning. Headache like a weight between the eyes, < morning after rising, may last all day. Vaccinated two years ago.

Physical examination: Parts about the labia reddened. A bright caruncle just below the urethral orifice about $\frac{1}{8}$ in. diameter.

October 5, 1904.—*Thuja* Φ to be painted on the caruncle n, and m. *Sepia* 12, pil. ii. *ter die*.

October 19th.—The caruncle is smaller and not nearly so red. It does not pain her now to walk as it did before. Still pain during and after micturition. Urine high-coloured, and deposits a red sediment.

Rep. *Thuja* Φ paint. *Lycopod.* 12, pil. ii. t.d.s.

November 2nd.—No pain on micturition now. No pain whatever in the genitals. Caruncle disappearing. The pain in the lumbo-sacral region is much less, and leucorrhœa much less. Some pain after food under left shoulder-blade.

Rep. *Thuja* Φ and *Lycopod.* 12.

November 23rd.—Catamenia now on but no pain in the hypogastrium. Still stitches at left shoulder-blade, < evenings.

Rep. *Thuja* Φ paint. *Puls.* 6, pil. ii. t.d.s.

December 7th.—The last two days slight pain on passing water again. *Pain in the left shoulder-blade gone. Pain in lumbo-sacral region < evenings.

Physical examination: The caruncle has now lost all its redness and appears only as a small, pale elevation at the urethral orifice, but just within the orifice the mucous membrane looks a little ex-coriated.

Rep. *Thuja* Φ paint. *Thuja* 30, pil. ii. t.d.s.

December 25th.—Still a little smarting on micturition. Urine high-coloured and thick. Pain in back and shoulder-blade gone.

Rep. *Thuja* Φ paint, < *Thuja* 30 n. and m.

January 18, 1905.—The caruncle has entirely disappeared and there is no pain or smarting on micturition.

Some dyspeptic symptoms. *Lycopod.* 12, pil. ii. t.d.s.
Patient did not return, presumably because she was well.

CASE III.—SINUS IN AXILLA.

M. T., aged 26. Domestic servant. Came on October 19, 1904, with an abscess under the right arm, in the axilla, which had been going on for three months. There was previously a swelling for years—probably enlarged glands.

Physical examination showed a sinus pointing in the axilla at a spot about two inches from the apex of the axilla and just behind the pectoral fold. A probe passed in two inches amongst thickened tissue which seemed to be inflammatory material in connection with broken-down glands.

No local treatment. *Rhus tox.* 30. pil. ii. t.d.s.

November 9th.—A large piece of hard matter came out last week (piece not seen by me, but it was not bone, probably a slough); better since.

Rep. *Rhus* 30.

November 30th.—Nearly healed.

Rep. *Rhus* 30.

December 21st.—Sinus quite healed. Still some swollen glands in the axilla.

Rep. *Rhus* 30.

Patient did not return.

CASE IV.—HEADACHES AND OFFENSIVE URINE.

S. S., a milliner, aged 16. Came on January 25, 1905, complaining that her urine was very offensive, so much so that she could not bear it in the bedroom—the odour was of a putrid character. There was no sediment in the urine and it was of normal colour. She had been taking "*Nux* pills," and some "*Acid Phosphates*" for it for a period of six months, but the urine was offensive before that. Had diphtheria four years ago. Is anæmic. Has a feeling of fulness after meals lasting about an hour. Eggs disagree. Bowels regular. Sleeps well. Catamenia regular, last five days, scanty and pale, no pain. No leucorrhœa. *R. Sepia* 12, m v. t.d.s.

February 3rd.—A bad bilious attack occurred two days ago, was very sick with it. She used often to have these headaches, but not the last two or three months. The pain was over the eyes and lying down; the face puffy but not flushed, the pain throbbing. The urine had been less offensive till the bilious attack came on, but more offensive again since. Urine clear, contains excess of phosphates, but no albumen. There has been pain across the abdomen

since the attack, worse on movement—no doubt due to strain from the violent retching.

Rep. *Sepia* 12.

February 10th—She thought she was going to have another bilious attack two days ago as she rose feeling giddy and sick and seeing bright-coloured stars, but it passed off.

Urine much less offensive.

Rep. *Sepia* 12.

March 7th.—No more bilious attack. Urine quite free from offensive odour. Feels much better in every way.

CASE V.—MALARIAL FEVER. NEURALGIA.

M. C. married, aged about 30. Four-and-a-half years ago she married and went out to India. She was then in good health. She lived in India about two hundred miles from Calcutta, in the plains, and did not go up to the hills in the hot season. For the first two years she had good health. She was then confined, at which time she suffered a good deal from want of good nursing and was weakly afterwards. For the last twelve months suffered much from malarial fever, which she had on and off all through that time, attacks being arrested by doses of *Quinine*, but soon returning. She also became dyspeptic and weak and much run down, and finally returned to England. She was better the first part of the voyage, but during the latter part seemed to catch a chill and a troublesome cough came on. She arrived in England on May 6th, and I saw her next day. She was then sallow and emaciated, a ghost of her former self, nervous and anxious. Her temperature was 102° and pulse 130. She complained most of a cough and tightness round the chest, preventing her breathing, and a rattling, bubbling sensation in the lower part of the chest on the left side. There was painful constrictive feeling about the hypochondria, and a crampy feeling at epigastrium, and nausea and inclination to vomit. She was bringing up frothy, yellow-white expectoration and breathing appeared asthmatical. She told me she retched much every morning with her fits of coughing. On listening to the chest I found loud, sibilant rhonchi all over, especially at the bases. No enlargement of the liver or spleen could be detected and the heart was normal. She was given a dose of *Natrum muriaticum*. 30

On May 8th (next day), she said she felt much relieved in her breathing and more comfortable altogether. She had had a fair night. Still a good deal of cough but fewer rhonchi. She was ordered *Natrum muriaticum* 30 once in thirty-six hours. She con-

tinued with this medicine for six days, and under it she improved much with regard to her chest symptoms and her general nervous condition, but the fever did not abate. It came on daily, commencing about 10-30 or 11 a.m. and rising till evening, falling again to normal or thereabouts in the morning. There were no distinct chills, but after taking the *Natrum muriaticum* for a day or two the hot stage was succeeded by profuse perspirations during the night. This was a new symptom, and one which she had not had with the fever while in India.

On May 13th, as the fever continued, the *Natrum muriaticum* was discontinued. Because of the periodicity of the fever, the attacks coming on every day at the same time, and on account of one stage, the cold stage being absent, I chose *Arsenicum* and gave one dose of *Ars. cm* at about 11-30 in the morning. The effect was immediate; the temperature did not rise above 100° on that day, reaching that degree at noon, and then, instead of continuing to rise as usual, falling to normal the same evening. She had no more fever attacks, the temperature remaining normal through the succeeding days. But a new symptom appeared. During the next five days, from 9 a.m. or 9-30 a.m. till 3 or 4 p.m., she suffered from severe supra-orbital neuralgia, coming on and going off gradually, and culminating from 12 to 1 or 2 each day. On the first occasion the right supra-orbital region was most affected but afterwards the left. The neuralgia was accompanied by lachrymation; there was great sensitiveness to light touch, but relief from hard pressure, relief from bathing with warm water. The pain was of a drawing character and was very severe. She was not restless, but preferred to remain quiet. It got no better during the next five days, as I expected it probably would, and so on May 19th I gave her one dose of *Sulphur cm*. This was in the afternoon when recovering from her daily neuralgia. She had no more neuralgic attacks and has convalesced rapidly since.—*The Homœopathic World*, August 1906.

CURES OF APPENDICITIS.

By DR. D'ESPINEY.

Miss H., fifty years of age, of good constitution, brunette and pretty plump, of former ailments she only mentioned disturbances in her digestion, which were combined with habitual constipation, but this had much improved in the course of the last years. Her employment as a weaver compels her to make violent exertions with the arms. The occasions for her present illness seems to point to overexertion in her work. Her disease made a violent beginning on Monday, the 12th of June, in the morning, with a pain in the right flank, with feverish commotion. Toward evening the pain had increased, and extended over the whole abdomen with nausea. Her state grew worse next day, the patient lapsing into a semi-comatose state; the vomiting is frequently accompanied with a burning pain, in the trachea; the smell of the substance vomited is putrid, almost fecal. The pain in the abdomen was always lively, chiefly lancinating, with stitches. Two physicians who were called in, one after the other, determined that in view of the urgent nature of the operation, the patient should be immediately transported to the hospital, which was done on the third day of her disease. In the Hospital St. J—the treatment consisted in the application of ice to her abdomen and injections of *Morphine*. The temperature fluctuated between 100.4° and 101.4° F. The vomiting gradually ceased but the pain in the abdomen continued. After waiting for five days, the surgeon determined to have the patient conveyed to the operating room, in order to institute there a searching examination, to be probably followed by an operation. But frightened by this prospect, and taking advantage of a delay in the execution of this order, Miss H. had herself taken home, where I visited her next day, on the ninth day of her disease. When the patient lay quietly stretched out in her bed, she suffered but little pain; only motion and the examinations caused her a lively pain. Her complexion was yellowish subicterical; the tongue was dry, whitish-grey. The day before the stool had been hard, knotty, greenish. The right ileo-cæcal region was occupied by a hard swelling, without any noticeable fluctuation on pressure, pretty sensitive. I prescribed a semi-fluid diet, a lavement with oil to be made with a probe made by Nolaton. For medicine I prescribed *Bryonia* 3, ten grains in a half tumblerful of water, giving a coffee spoonful at first every hour, then every half hour. In the morning the fever had not returned and Miss H. said that she felt

somewhat better ; the swelling remained stationary. The lavements with oil had called forth two to three stools. Prescription: *Mercurius cor.* 6. At my third visit, on thursday, I found the patient brighter, her sleep had been pretty quiet; she had eaten the soups without any aversion, but the abdomen was but little changed. I again prescribed *Bryonia* 3. From this time the improvement appeared ever more plainly. Next Sunday' (the twentieth day of her disease) a very marked decrease in the swelling could be noted. The examination allowed me to delimit a hard, longish mass, which seemed to lie obliquely in the iliac fossa, along the cæcum.

Three weeks later Miss H. appeared at my office. Her complexion was clear, the tongue clean, only there was yet some constipation. A careful and thorough examination showed no more anything in the right side. The digestion proceeds in a normal manner, more so than formerly, with less flatulence and distension of the abdomen.

It may be interesting to compare with this case which I personally witnessed those published by Dr. Clarke in a late pamphlet. I herewith give a brief summary of them :

CASE I. M. E. S., ten years of age, fair and tender, had in the last days had symptoms which were ascribed to a bilious attack, to which he was liable. On the 7th of September, 1887, his temperature was 102.2° F.; pulse, 120; the abdomen everywhere sensitive, but especially on the right side; the legs are drawn up; the least movement causes him to shrink, warm fomentations alleviate. The tongue is white; thirst. The bowels have not moved for two days. A liquid diet is prescribed, with warm applications *Bryonia* and *Mercurius cor.* in hourly alternation.

September 8.—Temperature, 102.2°, pulse, 108; constipation; the legs are drawn up. But little anxiety; she looks better.

September 9.—General improvement. Temperature, 96.6°; pulse, 96. Frequent urging to stool, which is painful and consists of small lumps. *Nux vom.* instead of *Bryonia*, in alternation, with *Mercur. cor.*

September 10 and 11.—The temperature has fallen; the abdomen is no more sensitive all over its extent, but now only in the right iliac fossa.

September 12.—High temperature, probably caused by nervous shock. *Opium* 3 and *Mercur. sol.* 6 were given in alternation every two hours.

September 15.—She got up and dressed. There is no more pain. The tongue is clear. The bowels are acting; there is good appetite.

China 1-D. and *Mercur. sol.* 6, in alternation. Since then she has been well.

CASE II. H. B., fifteen years of age, had a first attack of appendicitis five and a half years ago. When I visited him on May 2, 1903, he had been ill for one week. He lay in bed with his knees drawn up; there is sensitiveness in the right iliac region. Temperature, 100. Prescription: *Lachesis* 30 every two hours.

May 4. The pain is considerably less, but the iliac region is painful to touch. *Lachesis* was continued.

May 6.—Much better. He can move about and bear pressure; the bowels act regularly. *Lachesis* was continued. From this time the improvement proceeded quickly and without interruption.

In three other cases cited by Dr. Clarke the homœopathic medicines acted very manifestly to prevent the inflammation of the vermiform appendix; these were still in the painful or congestive stage; this was a very valuable service. The remedies which he used most were: *Lachesis* and *Apis*, both of which were used for the excessive sensitiveness in the iliac region. *Apis* was especially suitable where the right ovary is affected and when there is a sensation as if something was going to burst when there is defecation. *Bryonia* has aggravation through motion; *Rhus* when the patient has continually to move about. *Arsenicum*, *Mercurius cor.* and *sol*; *Iris versicolor* and *Iris tenax*; the latter remedy, proved by Dr. G. Wigg. calls for the following symptoms: Cutting pain in the abdomen, most violent on the right side; racking pain in the ileo-cæcal region, the pressure in the ileo-cæcal region causes a sensation in the pit of the stomach connected with anxiety, etc. In general, with the exception of cases where there predominates a sensitiveness on the surface of the abdomen, I think that we can mainly depend on *Bryonia* and *Mercurius*, which have yielded to me the best results in cases of appendicitis or of swelling of the vermiform appendix.—(*Le propagateur*, No. 8, '1905).—*The Homœopathic Recorder*, July 15, 1906.

Gleanings from Contemporary Literature.

POLYURIA.

By S. P. ALEXANDER, M.D., M.R.C.S., Southsea.

HAVING recently had before me in practice a well-marked instance of that rare disease termed diabetes insipidus, I venture to bring the case before you, as the basis of a short paper on the subject of Polyuria.

The Secretary of this Society having invited me to read a paper, it occurred to me that this subject, perhaps, might be of interest, because of the very obscurity of its nature, and the comparative infrequency of its occurrence in practice.

The case in question is that of J. H.—, æt. 44, a shipwright in H.M. Dockyard, Portsmouth, who consulted me on March 10th ult.

"Can you do anything to cure me of the drinking habit? was his plea; "I am at it day and night, drinking, drinking, and can't stop." A decidedly candid man, albeit a toper, thought I, as I proceeded to question him as to the precise nature of his drinking propensities. "Oh! I am a teetotaller," he assured me, "and never touch stimulants, but am drinking water day and night, and can never quench my thirst."

Commencing some twelve months previously, the malady had persisted and increased, in spite of treatment under several medical men, numerous mixtures and drugs being taken without benefit, and apparently only aggravating his condition.

The first onset was in March, 1905, when he suffered from "breaking out in the mouth," probably stomatitis, which "went through" him, he says, causing cough, vomiting, and diarrhoea.

Briefly, the symptoms of present condition are unquenchable thirst, with increasing general debility and loss of flesh. Skin harsh, dry, and scaly, and continually itching. Tongue and mouth red, dry, and parched, as also pharynx. Irritation of mucous membrane extends to œsophagus and stomach, causing burning after meals, flatulence, etc., together with dry spasmodic cough, apparently gastric in origin. Bowels costive; no heart or lung mischief discoverable. Appetite fair, not increased, but thirst unquenchable, water relieving for the moment only. Urination excessive and frequent, proportionate to amount of water taken. Sleep much disturbed, the continual need to rise every hour to micturate and drink at night aggravating intensely the patient's sufferings. Complaints of fullness and feeling of heat in head, as if he would go out of his mind, if prevented from satisfying his thirst. The amount of urine passed daily is immense, but exact quantity cannot be measured, patient being at work all day. Sample examined is odourless, colourless, of tap-water appearance, and contains no trace of sugar or albumen. Specific gravity, 1002.

Patient was put upon ac. phos. dil., i.e., phos. ac. $\frac{1}{1x}$, five drop doses four times daily. Turkish bath twice weekly recommended in view of

inactive condition of the skin. Milk, barley-water, lemon juice, and generous diet advocated, fluids freely, quantity not to be curtailed.

March 16th.—Patient no better. Specific gravity of urine, 1001. To take scilla 1.

March 23rd.—Condition same, no reduction in thirst or amount of urine. Feels quite unequal to continue his work. Cough very trying. Arsen. alb. 2.

March 30th.—No better. Dry tickling cough, very troublesome, being incessant during consultation. Prescribed gran pit. 3x.

April 2nd.—Feeling somewhat better. Cough decidedly improved since last medicine. *Repit.*

Being anxious to give the poor fellow every possible chance, and that the progress of the case might be watched under record of exact quantity of fluid taken, and daily estimate of urine passed, I communicated with Dr. Galley Blackley, by whose courtesy patient was admitted into the London Homoeopathic Hospital on April 2nd.

From the ward notes I extract as follows. weight on April 11th, 9 st. 4½ lbs, gradually reducing to 9 st. on May 3rd. Urine passed amounted to from 300 to 400 ounces in the 24 hours, and fluids taken in proportionate quantity.

Estimate of elimination of urea varied from 6 per cent in 274 ounces on April 30th, to 54 per cent in 216 ounces on May 10th.

Patient had ordinary diet, and water freely diluted with soda water. Was allowed to walk in open air as the weather permitted and took a bath at 90° twice weekly. The medicinal treatment consisted of phos. ac. 1, 5 drop doses thrice daily.

Leaving the Hospital on May 10th, the patient is again under my care. He expresses himself as feeling distinctly better in every way, and has gained in weight, being now 9 stone 6 lbs. Thirst is less, and he has only to rise twice at night now to micturate. Quantity of urine has fallen to 216 ounces in 24 hours, and is of slight amber colour. Specific gravity shows little improvement, being 1004. The cough has disappeared, and both tongue and skin are normal in appearance.

And now as to the deductions to be drawn, and as to the moral of a case of this kind, what may we learn?

Firstly, that in *polyuria*, in the sense in which I employ the term, we have a distinct, definite, and very formidable disease to reckon with.

The word, according to the derivation from *polys* much, and *ouron* urine may be said, generally speaking, to apply to abundance of urine from whatsoever cause. That is to say, the term refers to the quantity rather than to the character of the fluid passed.

Quain uses the word *polyuria* as synonymous with *diabetes insipidus*. Allbutt, on the other hand, in treating upon *diabetes insipidus*, distinguishes two separate forms of the disease, viz., *hydruria* and *polyuria*. The first is characterized by abundant flow of non-saccharine urine of low specific gravity, the term *polyuria*, with him, referring to those forms of

the disease where the solids as well as the liquid elements are increased. For example, we may have urea in excess in *azoturia*, phosphates in *phosphaturia*, and finally *baruria*, where solids generally are increased. *Polydipsia*, again, and *chronic diuresis* are terms like *hydruria*, denoting urinary superflux apart from the quantitative relationship of the urinary water and solids.

Amongst these numerous and somewhat conflicting titles, I have selected that of *polyuria*, and employ it in this paper in its wide derivative sense, "much urine." Accordingly, from this point of view, it may be said to embrace or group together all those maladies where there is superabundance of urine, from whatsoever cause. For example, we know excessive urine may be found in certain forms of Bright's disease, as contracted kidney, in hysteria, temporarily after diuretic drugs and drinking of large quantities of water or other fluids. Again, in diabetes mellitus, as also in glycosuria, we have increased urine, or polyuria, so far the quantity of urine is concerned. In certain diseased conditions abdominal tumours, aortic or abdominal aneurysm, increased secretion of urine may be a concomitant. In neurotic patients again, suffering from excitement, dread, apprehension, or other emotional disturbance, emission of a large quantity of clear urine is a common occurrence. "Funk" before examination or public speaking may be especially attended by marked increase and inability to retain urine. I may instance the case of a lady patient of mine who invariably, when calling upon the doctor, has to be conducted upstairs by the maid, before consultation.

Nervous palpitation, with temporary increased blood-pressure, is no doubt the proximate cause, at least, of the increased renal secretion in such cases.

Apart from such temporary causes, however, the chronic and permanent diuresis of diabetes insipidus is a polyuria *per se*, and a distinct disease by itself.

What is our knowledge, then, as to the etiology of this special malady? From the nature and onset of the disease, there can be little doubt, I think that the malady is primarily nervous in origin and determined by disturbance in the cerebral centres. As in the case of glycosuria which has been produced artificially by puncture of the floor of the fourth ventricle, polyuria has also followed Cerebral lesions, traumatism, or tumour involving that portion of the brain then, have clearly been recognized in diabetes insipidus as a determining cause. Amongst other possible causes are malnutrition, worry, anxiety, shock, alcoholism, sunstroke, and exposure to cold.

As to influence of age and sex, the disease would appear to be one of early childhood and early middle life, and is twice as common in males as in females. Nocturnal incontinence, or "wetting the bed," in children, especially when persistent and in the absence of other causes, must be reckoned with as possibly due to polyuria proper.

Typical examples of the disease are distinctly rare and of infrequent occurrence. Osler remarks that amongst 150,000 patients treated in the Johns Hopkins Hospital, only two cases were that of diabetes insipidus. Allowance must be made however, for the nature of the malady, and its chronicity, as one hardly deemed eligible for hospital treatment as compared with the ordinary class of hospital diseases.

The examples of the disease in general practice are rare, and, I may say, the present case is the first distinctly typical, one so far, which has come under my own observation.

As to the pathology of diabetes insipidus, our knowledge is scant and indefinite. A want of inhibitory control of the vasomotor renal nerves, sums up the supposed pathology of the disease. There are no characteristic or constant anatomical lesions. The celebrated diabetic puncture of Bernard, in the medulla oblongata, was attended by copious diuresis, and throws light upon the pathology of those cases of polyuria, at least, associated with cerebral tumour or other brain lesion. As the pulse in diabetes insipidus is always feeble and easily compressible, we must exclude high arterial tension as a determining factor in this disease. As already remarked increased micturition does result from increased blood-pressure in hysteria, but this is of a temporary character, and to be distinguished from polyuria proper and its attendant low arterial tension. The influence of altitude should be of interest here, as relating to variations of barometric pressure, as also oxygenation of the blood, but as to this I have no practical knowledge, that is, so far as polyuria is concerned.

As to prognosis I fear we cannot speak hopefully, and the text-books tell us that cure of the disease is rare. The degree of severity, onset, and type, whether acute or chronic, necessarily influence the prospects and probably, as in diabetes mellitus, the younger the patient the more fatal the disease. Of the beneficial effects of homœopathy in modifying the prognosis, I should be delighted, if able, to speak in glowing terms but our patient, alas! is not cured yet!

As with a multitude of other diseases in the text-books, when the question of treatment is considered, significantly enough, "unsatisfactory" is the verdict. Beyond palliation and generalities, there is little remedial, and in the case of diabetes insipidus, absolutely nothing specific as to treatment. *Per contra*, is there anything in homœopathy to help us?

Hypothetical and obscure though the disease may be, and ignorant as we are with respect to exact knowledge, nevertheless our rule of practice yet applies, indicating at least the road to relief, and lighting up the way of cure.

From the symptoms of the disease, perhaps one of the most decidedly indicated remedies is scilla, a drug which produces increase of urine, being classed amongst the vasomotor diuretics, stimulating the circulation, to which class digitalis, belladonna, and ergot also belong. In our patient

scilla had the mouth symptoms, dryness and burning, together with thirst and increased urine.

Phosphoric acid appears to have been well indicated in this case, covering well the symptoms of progressive exhaustion and nervous debility. It was the sheet anchor of the hospital treatment, and distinctly relieved the sufferings of the patient.

Uran. nit., so especially, indicated in diabetes mellitus, finds its similitum here also, being indicated for increased urine, thirst, dry tongue, dyspeptic symptoms, and cough of gastric origin. In the case recorded in this paper, uran. nit. was the first remedy to appreciably affect the cough, and to afford decided relief. DR. BRADFORD recommended it in simple diuresis, especially when the urine was apt at times to become "acid," whatever that may mean? But there are other remedies to be thought of in the remedial treatment of the disease. Belladonna, for example, so valuable in nocturnal incontinence. A patient of mine, for whom I recently prescribed this remedy for laryngitis, returned a few days after, much relieved as to the laryngitis but complaining of urging to urinate and excessive micturition since taking her medicine.

When cerebral lesion is suspected, or when tumour can be diagnosed, the remedy is indicated accordingly. Arsen. iod., for example, in suspected tubercular mischief, or in event of syphilitic taint.

Arsen. alb. has many of the symptoms of diabetes insipidus, being suggested by adynamia and excessive prostration. In the patient's case, DR. BLACKLEY proposed to use it should the elimination of nitrogen in urine prove to be diminished. Ignatia, strychnine, and nux vomica are remedies in polyuria, dependent upon, or associated with, nervous symptoms.

Natrum mur. especially is to be thought of in diabetes insipidus. Its immoderate use produces scorbutic degeneration of the blood and tissues, together with polyuria, constipation, coldness, despondency, dryness of mouth and mucous membranes. Allbutt very significantly warns us against *salt*, remarking that the quantity taken in diabetes insipidus should be extremely small, because of its diuretic action. But as it has been said, their "*contra*" is our "*pro*."

It is interesting to note too that Bock and Hoffman succeeded in the production of an artificial diabetes mellitus, with its attendant polyuria, by injecting into the blood of rabbits large quantities of *common salt*.

Anacardium may be referred to as a possible remedy, indicated because of its "weakness of mind, memory, and senses," and being prescribed for "funk" so-called; it is interesting to note "increased frequency of micturition" as one of its symptoms. This may be due to cardol, a vesicant which it contains, explaining also its irritant effect upon the bladder and skin. Speaking of "nervous urine," the profuse limpid flow from nervous excitement of gelsemium may be mentioned *en passant*.

Murex purpurea is another remedy of reputation in the treatment of diabetes insipidus. Its chief indication is "frequent need to urinate

during night urine colourless." Prepared by triturating the desiccated fluid contained in the colour sac of the mollusc, it is interesting to find that the medicinal effect corresponds to *sepia* obtained in a similar way from the cuttle fish.

The head symptoms of *murex purpurea* are worth considering, together with the dry cough and general debility of the whole muscular system.

Apocynum is recommended by Halc where a sense of sinking at the pit of the stomach, with great debility, is the characteristic symptom. He tells us, vaguely enough, that diabetes insipidus is one of the primary conditions caused by the drug. Candidly, my own experience with this remedy in practice generally has been disappointing.

Argentum met.,⁴ or metallic silver, in that it causes some diuresis, was suggested by Hahuemann as occasionally useful in diabetes insipidus. The great feature of its proving is "frequent and much urination" with emaciation, great weakness, dryness of tongue and buccal cavity.

Eupatorium purpureum, as causing primarily very profuse frequent urination, may be referred to, and from our point of view it is especially interesting to note that it has "urine clear, limpid, and of low specific gravity."

No doubt there are further possible and minor remedies, to which I do not refer, but conclude our paper with a brief allusion to some non-medicinal methods of treatment.

As to diet, unlike diabetes mellitus, there can manifestly be no special restrictions, carbohydrates and hydrocarbons alike may be indulged in, and the more generously the better. Apparently nothing is to be gained either by limiting the quantity of fluid, and this may be eked out as far as possible by mineral waters. Effervescing drinks are said to increase the diuresis.

When nervous lesion can be determined, the continuous current may be of benefit. DR. ROBERTSON records a case of diabetes insipidus, dependent upon disease of the bulb, where use of voltaic electricity was the only measure that gave distinct relief. The positive pole was applied to the back of the head and neck, and the insulated negative pole through the nostril to the posterior wall of the pharynx. Current strength gradually increased from half to five milliamperes, for five to six minutes every second or third day for seven weeks, resulted in decided lessening of urine, and increase of specific gravity.

Vigouroux states that the glycosuria of neurasthenic patients quickly yields to static electricity, so that "Franklinization," or static electricity, might possibly benefit in diabetes insipidus also.

Chârcot records a case of diabetic paraplegia practically cured by static electricity, where not only the sugar greatly lessened, but the polyuria diminished by more than one half.

Static electricity, seldom used in this country, is now, I suppose, entirely superseded in favour of the high-frequency current.

The general principles as to bracing climate, warm clothing, and open-air exercise, need only be mentioned. The latter especially must be regulated to avoid fatigue. Within proper limits, and where able to be borne, sea-bathing is, *facile princeps*, the most tonic and invigorating form of exercise.

And now, gentlemen, I must bring these remarks to a close. I am quite conscious that what I have said is fragmentary, and not very original or conclusive, but it may suffice to suggest the subject, to awaken interest in poorly understood malady, and to stimulate our efforts to attain the goal—the possible cure of the disease.—*The Monthly Homœopathic Review*, July, 1906

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RAT AND PLAGUE.

The dissemination of plague by rat still remains an undetermined speculation. The game of chance plays the principal part. Giridih is said to be devoid of plague for the crusade against rats. The public were assured of the fact by the rat-killers, but one of their chiefs, the Sanitary Commissioner of Bengal, cannot safely proclaim the immunity of Giridih from the extermination of these creatures. He says in his report for the year 1905 thus :

“ During the year under report, rat extermination has been carried on in many places, but notably in the Giridih coal fields and in Bihar. As plague has not been anything like so prevalent this cold weather throughout the whole province, it is scarcely reasonable to conclude that there has been little or no plague in places where rat extermination has gone on that it is the removal of the influence of the rat that has saved the places.”

The unmitigated hatred of the modern sanitarians towards all lower animals has assumed the hypothesis that almost all our diseases are conveyed by them. Perhaps, it would be reasonable to conclude from their assertion that these poor creatures should be removed from their land of life. They create pestilence during their period of living. After death, it is expected that they can be useful to the Chicago meat-packers.

The formidable energy displayed in the business of rat-killing is manifest from the following observation of the Sanitary Commissioner :

“Rats under natural conditions, breed twice in the year—in March and in October, hence it is obvious that it is not possible to relax the measures for any length of time if extermination is aimed at. Further, in the rainy season many of the field rats may be driven into houses through floods or through famine. This variety does not usually go into villages and houses, nor do they usually suffer from epidemics of plague, consequently they are in all probability very much more likely to be susceptible to the disease than the surviving house rats, who have passed through an epidemic of plague the previous cold weather. This I believe is the correct explanation of the isolated recrudescences of the disease that occur in Bihar in August and September. The rat population of any village is suddenly augmented with a large number of susceptible field rats; these new arrivals contract plague from the house rats and the villagers themselves suffer.”

A plausible theory, indeed! The field-rats enter the houses in the rainy season, when there is no plague. They remain as friends of the house-rats till winter, and are attacked with plague given by their hosts, the house-rats. The guests suffer and disseminate plague.

The field-rats come to their friends the house-rats. Then they forget their old habit and remain with them. They could find out means to cultivate acquaintance of the house-rats. They are charmed by their hospitality and remain captivated. They come to the homes of the house-rats, and forget to retrace their steps. Such amity and cordiality between the two kinds are unknown in nature. The Darwinian theory of the struggle for existence is lost sight of by the Sanitary Commissioner.

Are we to assume, after all, the house-rats, the remnants of the plague stricken creatures do not breed and bring forth fresh progeny? Perhaps, their procreative functions are des-

Oct. 1906.]

Rat and Plague.

troyed and they adopt the field-rats to take care of their home and hearth.

Other theories are at stake. The house-rats after acquiring artificial immunity communicate plague to the field-rats. It is supposed that the field-rats are devoid of natural immunity. Many suppositions and ideal speculations are sought to relieve the distress of a plausible explanation.

The nationalities of rats now come to the consideration of the authorities. The Sanitary Commissioner of Bengal received the following information :—

“ Captain King, I. M. S., on plague duty in Bihar, has been investigating the subject of rats in Bengal and has given me the following notes : In Patna and other large towns in Bihar, he found two varieties, viz., *Mus Rufescens*, about 80 per cent., and *Mus Alexandrinus*, about 20 per cent. There are no *Mus Decumanus*. In other places and in villages the *Mus Alexandrinus* does not appear to be so common, but occasionally a variety, *Nesokia Bengalensis*, the Indian mole rat, has been captured in houses. This last species is in reality a field rat, but does enter houses and stables not infrequently. The fourth species that may be met with in houses in Bihar, though only very occasionally, is the common Bandecoot, *Nesokia Giganticus*; all these five species are met with in villages. There is one feature common to the lot of them, viz., that however much the colour of various specimens may vary, they all have black or very nearly black, tails. This is a useful point, for when tails are sent up for rewards, all the grey and yellow ones can be rejected as field rats, while the black ones may be paid for as being caught in villages.

The field rats proper that have been identified in Bihar are (1) the Jerboa rat, *Gerbillus Indicus*, (2) a rat that is probably the soft furred field rat and (3) a variety which Captain King cannot classify from any of the works on the subject.”

The enquiry of Captain King turns to the point of differentiation, the house-rats have black tails and the field rats have grey and yellow tails. According to him the house-rats can

propagate plague and not so the field-rats. The transformation of field-rats into the house-rats is against his theory, for only the killers of house-rats deserve the reward. This enunciation of fact is against the theory of the Sanitary Commissioner of Bengal.

As for the study of the habit of house-rats in propagating plague, it still remains unsolved. The connecting links are taken to be certain kinds of rat-fleas. About them, the following remarks have been added:

"Several batches of rat fleas were sent down to Bombay for identification. Out of some 700 sent, almost all were the black rat flea, *Pulex Cheopis* (pallidus), whilst only two turned out to be the brown rat flea, *Ceretophyllus Fasciatus*. Captain Glen Liston informs us that in England the latter of these two varieties is extremely common and the former practically never seen, but the results of his investigations in the Panjab correspond largely with those in Bihar."

The fleas of black rats have been partially identified. The next point for consideration is, whether the flea *Pulex Chenopis* communicates plague from rat to man? We wait for further reports on the investigation.

A REPROVING OF BELLADONNA.

There is ample necessity for reproving the noted medicines of our materia medica. The necessity was felt for a long time to the cause of progressive and scientific medicine as enunciated by the principle of *Similia Similibus Curantur*. The arduous task was undertaken by the American Homœopathic Ophthalmological, Otological and Laryngological Society. In more sense than one the reprovings are considered as test drug proving for they are the carefully recorded physiological actions of a drug as Belladonna without the so-called poisoning symptoms which endanger life. Neither of these symptoms are due to local applications, for they do not form actual test symptoms of a drug. The General Director of the proving is Dr. Howard P. Bellows who was formerly professor of physio-

logy in the Boston University School of Medicine. It was considered safe to rely the new experiences in the hands of an able colleague, as a former professor of physiology. In the introduction, the necessity of reproving was particularly considered. Dr. Bellows writes: "It can hardly be realized, without critical study, how large a percentage of the symptoms ordinarily ascribed to Belladonna are the result of poisonings, some of them fatal, the effect of external applications, or the action of over-doses administered to the sick. For instance, in Allen's Encyclopædia of two hundred and fourteen authorities cited which can be tabulated, one hundred and nine deal with poisonings, sixty-four with the effects of overdoses, liniments, plasters, berries, etc., and only the remaining forty-one are provings, properly so-called. In the Cyclopædia of Drug Pathogenesis, of forty-one authorities quoted, twenty-one deal with poisonings and the remaining twenty with provings."

On the other hand the O. O. and L. Society has given fifty-three new provings. They serve to test the reliability of the former provings.

The preference of the new provings rests on the following considerations:

"The result of this compilation and mixing of symptoms in our older symptomatologies is an undue prominence given to symptoms of an exaggerated character, and to the more violent and more striking drug-effects characteristic of poisonings. In comparison with these older records, the new one here presented may, for this reason, seem to be somewhat lacking in force and in consequent value. In point of fact, what it may lack in this kind of force enhances its value as a guide in practice. The drug-effects which this proving has developed are those seen in patients in ordinary states of sickness, while under treatment with reasonable hope of recovery, and not those seen in cases perhaps already moribund and beyond hope from any therapeutic measures. It is far more useful and reliable for our guidance in prescribing that we see such effects as these plainly presented in their true relationship to other symptoms, and in a just

“degree of intensity, as developed in a pure proving, rather than to have the attention caught by the more glaring effects which are, perhaps, never seen in curable cases. These should be incorporated in our future records, but should be distinctly marked as poison effects, which must not be taken unduly into account in an ordinary prescription.” Narratives and synopses of provings form an unusual importance, as they contain the daily diary of provings and the successive development of symptoms of the fifty-three provers. The results are presented in a new schematic form contrasting with those of the old form.

The old classification into mind, sensorium, inner and outer head, has been retained. The new division into mind and nervous system takes the lead.

• The principal symptom of the mind in respect to Belladonna is delirium. The provings record the following symptoms:—
“Very delirious; talks wildly, eyes look staring and wild; delirious, so that he did not record any symptoms or see examiners, but talked a great deal during latter part of p.m., and evening, followed by heavy sleep during night.”

With a view to find out the difference with the symptoms mentioned in our materia medica, we find the following statement:—Delirium; with springing out of bed, laughing; constant talking; fury; pulling at the hair of bystanders; inclination to tear everything into pieces; attempted to bite and strike, broke into fits of laughter and gnashed her teeth, look wild and fierce; her; fury with staring eyes and continually spitting at those about delirium with picking at bed-clothes off; threw herself from a height in delirium; with violent motion of arms and legs; running into the street naked; gesticulating, dancing, laughing, uttering and doing many absurd things; abhorrence of liquids; garrulity; using absurd language, laughter and singing.

It will be seen that the most prominent symptoms recorded in our materia medica are the fruits of poisoning, differentiating from those of proving. In other words, the above mentioned violent symptoms never appeared in the provings of Belladonna.

and consequently, they can not be generally used. There are exceptions where the poisoning symptoms are necessary to be considered as in cases of violent delirium. The ordinary and extraordinary characters point to the provings and the poisonous symptoms respectively. In all other details, the new provings record symptoms in a comprehensive form and with a thoroughness surpassing the old records. The provings are the earnest endeavours of zealous men who had been placed in a difficult undertaking and the researches owe their success to the care and labour of the medical directors. In fact, if the other drugs are proved in this way, the whole work will facilitate our comprehension of the use of homœopathic medicines and the results are destined to be far better than what they are at present. We congratulate our colleagues of the American O. O. and L. Society for carrying the provings of Belladonna into successful conclusion and hope they will enhance the knowledge of other drugs of our materia medica by their new and progressive method.

The price of the book is fixed at five dollars and is available from Dr. P. Bellows, of Boston, Mass., America.

NEED OF AN INDIAN HOMŒOPATHIC PHARMACOLOGY.

(Continued from page 225.)

124. *Canchalagua* or *Erythrea Chiliensis* is a native of tropical America.

125. *Canna* or *Canna Glauca* is an Indian plant. We call it *Canna Indica*. It is found "all over India and Ceylon, chiefly in garden where they are grown as ornamental and flowering plant; they are in flower all the year." The Bengali name of *Canna* is *Sarvajaya* (সর্বজয়া). Its Persian name is *Akulbar*, *Suroochjea*.

126. *Cannabis Sativa* is considered by Watt that "*Cannabis Indica* has been reduced to *C. Sativa*. The Indian plant being viewed as but an Asiatic condition of that species. This extends the region of the hemp-plant very considerably. It has been

found wild to the South of the Caspian Sea, in Siberia, in the desert of Kirghiz, it is also referred to as wild in Central and Southern Russia and to the South of the Caucasus."

Clarke admits the difference in the properties between *Cannabis Sativa* and *Cannabis Indica*. He says: "*Cannabis Sativa* and *Cannabis Indica* are botanically identical; the difference in their properties is solely due to their difference of soil and climate in which they are grown." Clarke identifies *Cannabis Sativa* with the European and American Hemp.

127. *Cannabis Indica* has been called by Clarke *Hashis*, *Bhang* or *Ganja*. If we accept *Cannabis Sativa* being botanically equal to *Cannabis Indica*, no great difference in their property can exist. On the other hand it is plain that *Hashis* is not *Bhang* or *Ganja*. They are three different constituents obtained from the same plant. Watt writes: "There are primarily three forms of this (narcotic) substance, but under each there exist also local modifications, special preparations from these, and adulterants or imitations. The three forms are known as *Ganja*, *Charas*, and *Bhang*. *Ganja* is the female flowering tops with the resinous exudation on these; *Charas* the resinous substance found on the leaves, young twigs, bark of the stem, and even on the young fruits: *Bhang*, the mature leaves and in some parts of India the fruits also, but not the twigs." Further on, he says: "As already explained there are three forms of this poisonous drug: (a) *Ganja*, the agglutinated female flowering tops and resinous exudation on these; (b) *Charas*, a resinous substance found on the leaves, young twigs, and bark; and (c) *Bhang* or *Siddhi*, the mature leaves, and in some parts of India the fruits also, and even the very young twigs, but not the stems. *Ganja* and *Charas* are smoked, and *Bhang* is either used in the preparation of the green intoxicating beverage *hashis*, or in the manufacture of the sweetmeat known as *Majun*. *Bhang* is much weaker than *Ganja* or *Charas*, and by many supposed to be much less injurious. . . . *Bhang*, being collected largely from the wild plant is extensively used all over India, the bulk of the consumption entirely escaping

daty.....The greatest difficulty exists, therefore, in regulating the consumption of *Bhang*, but practically no such difficulty exists with regard to *Ganja* and *Churas*. The last mentioned narcotics can be produced only from the cultivated plant, and the consumption can, therefore, be regulated by law."

Practically in medicine, we make an arbitrary difference. We identify *Ganja* with *Cannabis Indica*, *Bhang* or *Siddhi* is taken to be *Cannabis Sativa*, *Churas* is incorporated with *Ganja* being both of them resinous exudation. The provings of the two substances *Ganja* and *Bhang* being unequal, there should be some specific names for them. The Sanskrit name of *Cannabis Sativa* is *Indrasana* (इन्द्राशन). The Persian is *Kunub* or *Bujee*.

128. *Capsicum Annum* is Red Pepper. Clarke calls it Cayenne Pepper. According to Watt *Capsicum Frutescens* is Spur Pepper, Cayenne Pepper, Goat Pepper and Chillies. It is also called the Shrubby *Capsicum*. Of *Capsicum Annum*, Watt writes: "A native of equinoctial America, most probably of Brazil. Commonly cultivated for its fruit throughout the plains of India, and on the lower hills such as in Kashmir, and in the Chenab valley upto altitude 6,500 feet. When grown on the hills it is said to be very pungent. There are seven varieties, differing chiefly in the length, shape, and colour of the fruit, some being round, other oblong, obtuse, pointed or bifid, smooth or rugose, and red, white, yellow, or variegated. It is probable that most Indian authors have confused this species with *C. minimum*."

Capsicum Frutescens is Cayenne Pepper. Watt has the following: "An annual cultivated throughout India, supposed to have been recently, comparatively speaking, introduced from South America. According to the best authorities, this and the other species of *Capsicum*, now cultivated in India, have no Sanskrit names. Of the Indian cultivated species this is perhaps the commonest, as it is also the largest, being sometimes cultivated in the hedges around fields. It is grown during the cold weather on light sandy soil in most parts of the country

and especially so in Bengal, Orissa, and Madras. The fruit when ripe, is generally of a bright red colour; it is then picked and laid out on mats to dry in the sun."

C. Annum is our ordinary pepper commonly called *Patnaya lanka*, (পাটনাইয়া লঙ্কা) which is generally larger in size than the other varieties.

Capsicum Grossum is Bell Pepper. We call it *Kul lanka* (কুল লঙ্কা). It is also known as Kuffee Chilli. *Capsicum Minimum* is Bird's-eye Chilli. The Bengali name is *Dhani lanka* (ধানি লঙ্কা). It seems that *Capsicum* has been introduced from tropical America. The name Chilli indicates that it came from that country of Southern America. There is no Sanskrit word for red pepper. *Marich* (কাঁচ মরিচ) is *Piper Nigrum* and not *Capsicum* mentioned in Sanskrit medical books. The differentiation into *Kala Marich* (*Piper Nigrum*) and *Lal Marich* (*Capsicum*) is a modern application.

The tincture for medical purpose comes from *Capsicum Annum* (পাটনাইয়া লঙ্কা), the largest of the capsicums. The fresh ripe fruits should be taken for tincture instead of the dried ones.

128. *Capsicum Jamaicum* is *Pimenta Aromatica*. It is the Jamaica capsicum, and differs little from *Capsicum Annum*.

129. *Carica Papaya* is the Papaw or our Penpe (পেঁপে).

130. *Carduus Benedictus* comes from Greece, Asia minor and Persia.

131. *Carduus Marianus* is an inhabitant of Europe.

132. *Carya Alba* or Shell bark or Shagbark Hickory is an American tree. The dried seeds are used for tincture.

133. *Cascara Sagrada* is *Rhamnus Purshiana* of California.

134. *Cascarilla* or *Croton Eleuteria* is a native of the Bahamas in America. The dried bark is imported.

135. *Castanea Vesca* is Chestnut. It is called by Watt *Castanea Vulgaris*, the sweet Chestnut or Spanish Chestnut. It was introduced in India and grows in the Panjab, the hills of the United Provinces, Darjiling and the Khasia hills. It is also known by the name of Indian chestnut. Its Bengali name

is Badam (बदाम). The Persian is Buloot, Nekaree, Kustul, Badamgootee.

136. *Caulophyllum Thalictroides* or Blue Cohosh, Squawroot is an American tree.

137. *Ceanothus Americanus* or the New Jersey Tree, Red root is an inhabitant of America. The dried leaves are used for tincture.

138. *Cedron* is Simaba Cedron. The dried seed comes from America for tincture.

139. *Centaurea Tagana* is an inhabitant of Mauritius. We have *Centaurea Behen* or the White Behen or White Rhapontia. In Hindi it is called Safaid Bahman and in Persian Bahman-i-Suffaid. There is another, *Centaurea Moschata* or Sweet Sultan. Its Persian name is Shah Pusand, or Azeez.

140. *Cerasus Virginiana* or *Prunus Virginiana* lives in America.

141. *Cereus Bonplandi* or *Opuntia Tuna* is a variety of *Cactus Grandiflorus*, comes from tropical America.

142. *Cereus Serpentinus* is its allied species.

143. *Cetraria Islandica* is Island moss. It is found in Europe, Asia and America. The dried lichen is taken for tincture.

144. *Chærophyllum Temulum* is a European plant.

145. *Chamædrys* is *Teucrium Chamædrys* and found in Europe and Asia.

146. *Chamomilla* is *Matricaria Chamomilla*. It is found in Europe, and Asia including India. The Persian name of *Chamomilla* is also Babunch as in *Anthemis Nobilis*.

147. *Chaparro Amargoso* is the Goat Bush and comes from America.

148. *Cheiranthus Cheiri* is the Common Wall flower of Europe and known also Yellow Violets. It is cultivated in the gardens of North India and known by the Hindi name of Todri-surkh.

149. *Chelidonium Majus* or the greater Celandine. It is a kind of poppy. It is found in Europe and Asia besides India.

150. *Chelone glabra* comes from America.

* 151. *Chenopodium Ambrosioides* is the sweet-Pigweed, Mexican Tea. Watt writes: "An old world, widely-spread species, now introduced into America, common in many parts of India, such as Bengal (Voigt says it is completely domesticated about Serampore), Silhet, the Deccan, and Coimbatore, etc.* It has a weaker and less offensive smell than *C. Anthelminticum*, from which it may be distinguished by having its flowers in leafy racemes." From this plant Mexican Tea is produced.

152. *Chenopodium Anthelminticum* is Wormseed and found in America. There are many other varieties of *Chenopodiums*.

153. *Chenopodium Album* or the White Goose-foot. It is common in most parts of India. Its Bengali name is Bēthu sak (বেথু শাক) and the Hindi is Buthooa, Kulfee. It forms a dietary in India.

154. *Chenopodium Botrys* is the Jerusalem Oak. It is found in India.

155. *Chenopodium Olidum* grows in Europe, Africa and America.

156. *Chenopodium Vulvaria* is a plant of Europe and Africa.

157. *Chimaphila Maculata* is spotted Wintergreen not found in India.

158. *Chimaphila Umbellata* is Prince's Pine and observed in Europe, America, and Asia besides India.

159. *China Boliviana* is a variety of *Cinchona Calisaya*. It is essentially an American tree.

160. *China Officinalis* is *Cinchona Calisaya*. Dr. King, a former superintendent of the Botanical Gardens of Calcutta wrote: "The trees producing the medicinal barks are all natives of tropical South America, where they are found in the dense forests of the mountainous regions of the western parts of that continent at height of from 2,500 to 9,000 feet above the level of the sea, and in an equable but comparatively cool climate. The *Cinchona*-producing region forms a crescentic zone which follows the contour of the coast line, but nowhere actually touches it, beginning at 10° N. and extending to 20° S. latitude.

The crescentic belt is nowhere much above a hundred miles in width, but its length (following its curve) is more than two thousand. During its course, it passes through the territories of Venezuela, New Granada, Ecuador, Peru, and Bolivia." Cinchona was first introduced into Europe by the Countess of Chinchon, wife of a Spanish Viceroy of Peru, about the year 1639. But the use of the bark remained unknown till 1846 when a few of the Calisayas were grown at the Jardin des Plantes, Paris, from seeds collected by Dr. Weddell during his first journey to Bolivia. Dr. Royle, a Botanist to the Government of India, wrote in June 1852 a report on the subject. The efforts of Drs. Royle, Grant, Falconer, Thomson and Anderson proved ineffectual. At last the Secretary of State for India deputed Mr. C. R. Markham to undertake a survey of the Cinchona region in America. Mr. Markham undertook triple expeditions. The plants were first produced in the Kew garden. In 1861 the seeds of the grey and red barks came to India. Another fresh supply was brought by Dr. Anderson in the same year from Java. They were first grown at Ootacamund, Nilghiries. In 1861 the Sikkim plantation was also fortunate in producing the tree. It will be seen that the transplantation of the Calisaya or yellow bark cinchona did not reduce the intrinsic quality of the tree. In 1872, Dr. King wrote: "This plant yields the yellow bark of commerce, and is a sort second to none in value; it promises to do well in Sikkim."

There are several varieties of Cinchona Calisaya as *C. Ledgeriana*, *C. Carthageno* and *C. Officinalis* or *Loxa* or Crown bark. The last is called the Pale Bark of commerce.

161. *Cinchona Succirubra* is the Red Bark. It is cultivated on the Nilghiris and mountains of Sikkim.

The tincture of Cinchona is prepared from the dry bark. The way in which the barks are dried, makes it uncertain as to the quality and quantity of quinine and its other constituents. For this reason, the preparation of the tincture from the fresh bark seems preferable. The fresh bark may not be available in the market but an effort to procure it fresh may succeed.

(To be continued).

REVIEW.

Thirty-eighth Annual Report of the Sanitary Commissioner for Bengal, 1905.

The Sanitary Commissioner as usual begins with rainfall. No particular Sanitary condition was marked in any month or place with regard to the meteorological condition. His general conclusion is :

"The peculiar weather conditions during the first four months of the year, very low temperature, and unseasonable and frequent excessive rains were very favourable for the development of plague and malaria, which prevailed with greatly increased severity during this period, while the early cessation of the monsoon rendered the last quarter of the year very unhealthy."

It seems that the Sanitary Commissioner creates a theory without showing his reasons. Is it really a fact that plague increases after the rains? What we observe in Calcutta is that the seizures of plague perceptibly cease after good and prolonged showers of rain. On the other hand, it is a notable fact that in Calcutta, plague gradually increases from January and diminishes from May.

With regard to births and deaths in Bengal, the sanitary reports of former years used to contain a table comparing the birth and death rates with the other provinces. In the year under review there are defective accounts which do not satisfy an enquiring mind. From them we frame the following tabular statement :

Birth and death rates in 1905.

		B.	D.
Central Provinces	...	54.02	37.21
Panjab	...	44.4	47.6
United Provinces	...	41.24	44.00
Bengal	...	39.55	38.53
Madras	...	32.0	31.4

Bombay has received scanty notice.

The tabular comparison shows in a clear light, the gain or loss during the year. The largest gain came from the Central Provinces which was 16·81. The next from Madras. It was 10·6. Bengal presented an increase of 1·02. So far with the gain. The greatest loss was in the Panjab which came to 3·2 and the United Provinces followed it having 2·76. The remarkable feature in the Panjab was the high rate of birth and the still higher proportion of deaths. Though Bengal was gainer to a slight extent, its heavy loss was mostly due to malaria than to other diseases as plague or cholera.

Firstly, we take into consideration the fever which is devastating the whole country, and for its ravages neither the Government nor the people are much concerned. During the year under review the loss was more than the average of the previous five years. The ratio was 24·34 against 21·14 the average. The detailed statement is as follows :—

	1905.	Average of 5 years.
Bihar	27·12	22·38
Bengal . . .	24·58	22·64
Chota Nagpur ...	20·65	16·78
Orissa ..	11·84	12·94

The mortality from fever is significant in comparison to other diseases.

	Average of five years 1900-1904.
Fever	21·14
Cholera . . .	2·77
Plague	2·52 (?)
All causes ..	33·42.

It will be seen that out of 33·42 from all causes, fever alone has taken 21·14 leaving 12·28 for the rest. In other words nearly seven-elevenths of the deaths in Bengal was from fever and four-elevenths from all other diseases combined. This is the consequence of a disease, the so-called malarious fever, which is considered a preventible malady.

The population of Bengal in the British territory according to the census of 1901 was 74,744,866, the average loss of the five years 1900-1904 was 1,055,108. The gain in ten years from 1891 to 1901 was only 4.76 per cent. The Feudatory States of Bengal in 1901 had 3,748,544 population, and there the increase in the ten years was 19.68 per cent. The insanitary condition of the British territory in Bengal requires that care and attention which have not been given by the Government. The Sanitary authorities should, therefore, be of the modern efficiency and the old style men of the Indian Medical service, who represent the effete materials of scientific progress should retire from the field.

Taking our average loss from fever ten lakhs every year, can it not be said what a horrible picture of mortality is presented by the scientific administration of the British Government? Add to this the figure of death from famine, then we have the brilliant prospect of an opening century.

EDITOR'S NOTES.

Zea Italica.*Ustilago Mäidis.*

Dr. Tessier, père, in the course of a discussion at the French Homœopathic Society, gave the following schema of the symptomatology of *Zea Italica* (which appears to be indentical with *Ustilago Mäidis*, and, like it, is credited with being the exciting cause of pellagra).

After doses of six grains of the tincture per diem for several days, the action of the drug persisted from two to nine months.

Fever.—Abundant sweats ; pulse at first accelerated, then weakened ; palpitation.

Moral.—Mania for bathing ; inclination to suicide, particularly by drowning ; inclined to be irritable and to weep without cause.

Head.—Heat of head ; confusion of ideas ; somnolence during day ; headache ; vertigo (relieved by drinking wine).

Skin.—Pruritus ; itching in various parts of the body ; eruption of ecthyma ; sunburn on arms and hands. Cure in cases of psoriasis, eczema and ecthyma.

Eyes.—Burning of the eyelids ; dilation of pupil.

Throat.—Burning in gullet.

Appetite.—Distaste for food, following voracity ; voracity increased.

Stomach.—Pyrosis ; nausea ; vomiting ; all disappearing under the influence of wine.

Abdomen.—Enteralgia ; soft stools ; diarrhœa.

Urina.—Urine red ; density increased.

Menses.—Metrorrhagia.

Trunk and limbs.—Muscular weakness ; loss of weight ; sensation of boiling water down the back ; contraction of muscles, especially of lower extremities ; pronounced clonic movements ; tetanic contractions.

Nervous system.—Paralytic seizure, causing him to fall to one side.—(*Revue Homœop. Française*, March, 1906, p. 99.)—J. G. P.
The Journal of the British Homœopathic Society, July, 1906.

CLINICAL RECORD.

Foreign.

NEW, OLD, AND FORGOTTEN REMEDIES.

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I.—LATRODECTUS MACTANS.

This is a poisonous spider found in countries so widely distant from one another as South Europe, the Southern States of the Union, and New Zealand. Already the order *Arachnida* has furnished to us the remedies—*Arunea diadema*, useful in ague; *Mygale* and *Tarentula*, effective in chorea; and *Theridien*, useful in true migraine and inframammary neuralgia.

The records of the poisonous effects of this particular spider cover new ground, and are of great interest to us, because they indicate a new remedy for that variety of *Angina pectoris* which is termed *Vaso-motoria*, first defined by Professor Nothnagel in 1867. The well-known Dr. Samuel A. Jones, of Ann Arbor, Michigan, analysed and commented on the five cases of *latrodectus* poisoning reported by Dr. G. W. Semple, of Virginia, in the *Virginia Medical Monthly* for 1875. The symptoms are not unlike those of serpent-bite, but there are differences.

I give an abstract of these five cases, three men and two women.

Case 1.—Mr. D., at 12.30 noon, on September 4, 1853, was bitten by a small black spider on the prepuce, while seated on the w.c. In half an hour nausea, followed by severe abdominal pains, and within an hour violent pains in the heart, extending to the axilla, and down the left arm to the fingers, with numbness of the hands and arm, and difficulty of breathing. An army surgeon had been called in urgently before Dr. S. arrived, and ordered cupping over the heart. The blood that came was thin and florid, and did not coagulate when emptied into a basin. Oozing of blood went on for some hours afterwards. Dr. S. found his pulse at 2.30 p.m. 130 and very feeble, his skin cold, and his countenance expressive of the anxiety he felt and expressed. There was no local pain, inflammation, or swelling at the spot where the bite had been received. Treatment by whisky and "sal volatile" and hot pediluvia was adopted, but Mr. D. did not rally until 2.30 on the 5th, twenty-six hours after the bite, when he vomited black vomit copiously. A reaction set in, and he recovered after passing two black motions.

Case 2.—A man was bitten in the groin and almost immediately felt nausea, severe abdominal pain, and a sinking at the epigastrium; his pulse became quick and thready, and the skin very cold. This man soon recovered under ammonia and whisky, two quarts of the latter producing no symptoms of drunkenness. In fact, the same "toleration" of alcohol exists in these spider poisonings, as in snake-bites.

Case 3.—A lad, aged 18, was bitten on the back of the left hand. Violent pain began there, and in a short time extended up the whole arm to the shoulder, and thence to the præcordial region.

Case 4.—A coloured woman, aged 22 bitten on the right wrist, was found by Dr. S. *apparently moribund*; her skin cold; the pulse could not be felt in the left radial artery; the apnoea was extreme; the respiration only occasional, gasping; countenance full of anxiety; violent pain extended from the bite up the arm to the shoulder, and thence up the neck to the occiput on the right side; more violent pain in the præcordia, extending thence to the left shoulder and axilla, and down the arm to the ends of the fingers, the arm feeling partially paralysed. This patient was saved from death by the intravenous injection of thirteen minims of undiluted aqua ammonia.

Case 5.—A healthy girl, aged 13, was bitten on the right wrist. In half an hour a painful sensation began to be felt at the spot, which quickly extended up the arm to the shoulder, and in an hour along the neck to the occiput; "pain in the præcordial region, with apnoea coming on. I was sent for. When I arrived she was screaming with pain, and exclaiming she would lose her breath and die. The pulse had become thready and the surface cold."

Dr Jones has analysed and classified the toxic symptoms produced by these *latrodectus* in these five sufferers, thus:—

In four out of the five cases these symptoms occurred: (1) præcordial pain, (2) pulse feeble and thready; (3) coldness of the whole surface of the skin. In three cases there were; (1) apnoea; (2) pain up the arm of the side affected to the shoulder, thence to the præcordial region, thence in two cases to the occiput and nucha; (3) sense of impending dissolution, with the corresponding anxiety and dread expressed by the countenance. In two cases the primary symptoms produced were (a) nausea, and (b) severe abdominal pain, the insect-bites having been inflicted upon the penis and the groin respectively, thus quickly affecting the splanchnic nerves through the solar plexus.

In two cases the *left* arm was partly paralysed, even when, as in Case 4, the patient had been bitten on the right wrist.

The isolated symptoms recorded were: black vomit and black stools (Case 1): sinking at the epigastrium (Case 2): respiration only occasional, and gasping (Case 4).

Cognate with the pathogenetic effects of *Latrodectus mactans* are those of *Latrodectus katipo* of New Zealand, of which "I here exhibit three fine specimens, very rare and difficult to obtain, as the Maoris dread them. The bite of this *latrodectus* speedily inflames the skin, causes visible lymphangitis and nervous twitching, reminding us of *Tarentula*."

In one case of *katipo*-bite on the foot, a scarlet papular eruption, burning like fire came out on the leg. Another sufferer, a man, wasted away for three months, and took six months to recover. A man consulted me in Auckland, New Zealand, for a "catarrhic" inflammation of the septum narium, which he declared was "solely caused by a *katipo*-bite on the face, inflicted eighteen months before. Fatal cases are rare. The only one recorded in, "*Clarke's Materia Medica*" (s.v. *Latrodectus*) is that of a girl who died six weeks after a bite on the abdomen.

In the *Auckland Star* of September 27, 1901, is noted the death of George Twidle, jun., aged 47, who had been bitten by the spider while putting on his coat, which had been lying on the ground. This was on September 16. "In spite of all that medical aid could do, deceased died on the following Saturday, September 21, after severe suffering." No further particulars than these are given.

We are not able to ascertain whether angina symptoms are present or absent in poisoning by *L. katipo*.

Copland's definition of angina pectoris is, "Acute constricting pain at the lower part of the sternum, inclining to the left side, and extending to the arm, accompanied with great anxiety, difficulty of breathing, tendency to syncope, and feeling of approaching dissolution."

The exact resemblance to angina pectoris of *L. mactans* poisoning is evident. The symptoms of the poison bite even follow the order of those of "vaso-motor angina pectoris." Vaso-motor angina is caused by a sudden spasm of the peripheral systemic arterioles—in the cases I am discussing, caused by the toxin of the spider—a spasm which resists, by high tension in the arteries, the blood-pressure normally exerted by the ventricles in systole. As soon as the coronary arteries are reached by this spasm, intense pain and the temporary impediment, or half-suspension of the ventricular contraction, takes place. "The pain itself," writes Osler, "undoubtedly is in the cardiac plexus and radiates to adjacent nerves." Hence the immediate relief given in an attack by the inhalation of amyl-nitrite, which instantaneously relaxes the arterioles, and allows the ventricles to pump out the blood-stream. Of course the true angina that is sometimes fatal occurs in persons whose coronary arteries have been for some time in a state of degeneration. In this class of angina cases I do not advise iatrodoctus, but rather glonoin, hydrocyanic acid, or spigelia.

Dr. Linnell, in the *North American Journal* for December, 1890, reports two cases of the vaso-motor form of angina greatly relieved by iatrodoctus 3.

I think we are warranted in using this remedy in vaso-motor angina pectoris.

The whole spider immersed, alive, in alcohol, is the form in which the matrix tincture is prepared.

II.—CEANOTHUS AMERICANUS.

This remedy has in practice amply justified Dr. Burnett's commendation in diseases of the spleen, in 1887. It belongs to the natural order Rhamnaceæ, or the Buckthorns. It is indigenous to the Northern States, and is there known as New Jersey Tea, Red Root, and Wild Snowball. The tincture is prepared by maceration from the fresh leaves pounded into a pulp.

In the third edition of his "New Remedies," Dr. E. M. Hale first introduced ceanothus, citing testimony from old school and eclectic sources as to its value in inflammation and enlargement of the spleen, and adding the statement which suggested to Burnett

its homœopathicity to these morbid conditions, namely, that "in chronic cases, when the spleen is no longer tender, under the use of *ceanothus* tincture it soon *becomes painful and tender* [Hahnemann's medicinal aggravation], and *then sinks rapidly to its normal size.*"

Dr. Burnett began to use *ceanothus* about the year 1874; has written several interesting papers upon it, both in the *Homœopathic World* and in the *Homœopathic Review*, and summed up his experience of it in his booklet, "The Spleen and its Diseases," published in 1888.

His contributions to the *pathogenetic* effects on those to whom it had been given are these:—

(1) *Ceanothus* frequently relaxes the bowels, even to the extent of diarrhœa.

(2) An intelligent young lady, aged 26, had been taking *ceanothus*, four drops thrice a day, with great benefit, when "one day I felt great nervous excitement, with chilliness, loss of appetite, and such a shaky condition of the nerves that I could scarcely hold knife and fork at dinner. I shivered with cold chills down the back." She discontinued the medicine, and all these symptoms ceased. Resuming *ceanothus* they reappeared. Some diarrhœa ensued.

(3) *The menses subsequently came on profusely, ten days too early*, an unprecedented event in her experience.

(4) Dr. Fabnestock, of the United States, proved *ceanothus* upon himself, and found that it caused a sticking pain in the spleen, followed by enlargement of that organ, worse on motion, and rendering him unable to lie upon his left side.

(5) Following these symptoms came similar symptoms in the liver.

(6) The urine was greenish, frothy, alkaline, specific gravity 1030, and showed the presence of bile, with traces of sugar.

Ceanothus not only relieves deep-seated pain the region of the spleen without affecting any other part of the body as a rule, but it actually reduces a chronically enlarged spleen, and seems to renovate a constitution which has broken down and has contracted pseudo-heart disease, chronic cough, leucorrhœa, dyspepsia, and attacks of dyspnœa. I now condense the reports of a few typical cases of cure:—

Case 1 (Burnett).—Lady, suffering from acute splenitis. The symptoms were violent vomiting, cough with expectoration, pain all up the left side, profuse sweats and fever. For three weeks the patient was treated as for pleuro-pneumonia, the spleen not having been percussed by the orthodox remedies, but without effect. After a careful examination, the spleen being found large and tender, *ceanothus* 1x cured in ten days.

Case 2 (Burnett).—A servant, aged 55, suffering from cardiac palpitation and violent attacks of dyspnœa, was found to have both spleen and liver greatly enlarged. She had been ill from ague in Northamptonshire thirty years before this (October, 1879). Splenic dulness extended to left mamma, and she could not bear even the pressure of her clothes. Five weeks of *ceanothus* 1x relieved all her symptoms, even the left side-pain which had lasted twenty-five

years. Drinking anything cold brought on the dyspnoea. Ceanothus for two months more completed the cure.

Case 3 (Burnett).—A lady, aged 55, complained of rigors at frequent intervals; distressing pain in the left side; and profuse thick yellow leucorrhœa, which had lasted for twenty years and resisted the best allopathic treatment obtainable in Chester. Ceanothus entirely cured the splenic pain and also the leucorrhœa in one month, but did not quite remove the "cold feelings," though these were very much diminished.

Case 4 (Anon.).—From *The Clinique*, January, 1901, is quoted the following case in Vol. xlv. of the M. H. R. Mr V., aged 31, came August 23, 1900, stating that he had contracted malarial fever eight months previously. Quinine controlled the ague, but continual pain in the left side and back remained. He is tired and exhausted all the time, losing flesh, perspiring easily, has a cough which increases the left side pain, this pain being worse in wet and in cold weather. Without distinct periodic rigors, there is still frequently a chilliness down the back, and slight feverishness at irregular intervals.

The spleen was found much enlarged and tender to pressure. Ceanothus $\mathcal{Q}$. three drops every three hours, improved him greatly in a week; in three weeks all enlargement and tenderness of the spleen had disappeared, and the patient was well.

It seems to me that we might profitably use ceanothus in cases of leucæmia in young anæmic girls, who, as we know, often complain of *pain in the left side through from the back of the waist to the front*, probably splenic, and often due to tightly-laced stays. In dispensary practice one is too often inclined to put these hastily down as ovarian. There should be, but I cannot detect it, some peculiar complexion of the skin which indicates enlarged, inflamed, or diseased spleen. Between the splenic, the slightly jaundiced, the anæmic, and the cancerous cutaneous tints, it is difficult to distinguish.

Perhaps some colleague will throw light in the discussion upon this point of external diagnosis. In the case of chronic recurrent splenic hæmorrhage, which I reported in my "Common-sense Homœopathy," 2nd Edition, p. 62, I found ceanothus $\mathcal{Q}$ of the greatest possible value. Miss A. D. B. lives close to my house, and I have kept her under observation. She has had no hæmorrhage whatever since 1897, and is well in every respect, in fact, more stout, robust and active than before her long illness (1888 to 1897).

We certainly owe to Burnett the knowledge of how to apply ceanothus in diseases of the spleen; and even in deep-seated pain in the left hypochondrium *not* dependent upon splenic enlargement.

III.—CRATÆGUS OXYACANTHA

of the Natural Order Rosaceæ, sub-order Pomæ. This is the Common English Hawthorn Whitethorn. A tincture is made from the fresh berries, pounded to a pulp, and macerated in twice their weight of S. V. R. It is strange that we find in this ancient and hardy plant, as characteristically English as the daisy or the crab-

apple, a heart remedy as efficient as the delicate tropical *Cactus grandiflorus* or Night-blooming Cereus of Mexico and the West-Indies.

It was a new era of relief for heart sufferers when Dr. Rocco Rubini first introduced this latter (Cactus); which had been imported into Naples, to the profession, by his pamphlet written in 1864, and translated by Dr. Dudgeon in vol. xxi. of the *British Journal of Homœopathy*.

The introduction of the new Cactus, as I may call it, is due to the revelation of a secret cure used by Dr. Green, of Ennis, Ireland, by his widow, after his death in 1893. He had earned a national reputation for "curing heart disease," with or without dropsy, so extensive that his fame attracted patients from all parts of the United Kingdom.

Dr. M. C. Jennings reported his success with cratægus in forty-three cases of heart disease in the *New York Medical Journal*, October, 1896. Dr. Jennings is an old-school physician, so that his cases are somewhat "mixed" as to treatment, but as early experience of this new drug is of value I give two of his cases.

Case 1 was that of Mr. B., aged 73. I found him gasping for breath, with a pulse of 158, very feeble; he had great œdema of abdomen and legs. I gave him 15 drops of cratægus in water. In fifteen minutes the pulse beat was reduced to 126, and was stronger, and the breathing less laboured. In twenty-five minutes the pulse was 110, and still stronger, and the breathing much easier. A second dose of ten drops was given. An examination of the heart revealed mitral regurgitation from valvular deficiency, with great enlargement. In one hour from the first dose Mr. B. was for the first time in ten days able to lie horizontally in bed. For the œdema I prescribed *hyd. cum creta, squill* and *digitalis*, but also he received ten drops four times a day of the cratægus tincture. In three months he recovered, and said he felt as well as any man of his age in Chicago. He still takes cratægus whenever he feels shortness of breath, or pain in his heart, with quick and perfect relief. His father and a brother died of heart disease.

Case 2 was that of a young woman whom I was informed was already dead when I entered the house. I went in and found that she was not quite dead, though apparently so. Putting amyl nitrite to her nostrils and applying artificial respiration, I had the gratification of seeing her eyes open and consciousness return. In half an hour she was able to talk and describe her feelings. An examination revealed a painfully anæmic condition of the patient, but no discoverable lesion of the heart, only functional weakness. Her pulse had been restored by the hypodermic injection of ten minims of amyl nitrite.

It was a case of heart failure, following on a long exhausting illness—chronic dysentery and dyspepsia. She received ten drop doses of cratægus thrice daily after meals for one month, after that only occasionally, and made a good recovery. In ten weeks she was in a perfect state of health.

Case 3 is that of Dr. Jos. Clements who thus relates his experience (condensed by me) in the *Kansas City Medical Journal*, 1898.

"About twelve years ago I was suddenly seized with terrible pain in the left breast, extending over the entire cardiac area and down the left arm as far as the wrist. I pressed my hands over my heart and seemed unable to move. My lips blanched and my eyes rolled in agony; the most fearful sense of impending calamity oppressed me; I expected death. The attack lasted a short time and then subsided, leaving me weak and excited. In two years, and again a year later, I had attacks. I took nitro-glycerine tablets and cactus pills without benefit. About fifteen months ago I was feeling very badly, having had several attacks within a few weeks. My pulse was at times very rapid and weak, also irregular and intermittent.

Hearing about cratægus I got some, and tried it, beginning with six drops, increasing to ten, before meals and at bed-time. In twenty-four hours my pulse showed marked improvement; in two or three weeks it became regular and strong. Palpitation and dyspnoea left me, I began to walk up and down hills without difficulty, and left a general sense of security and well-being. Yet I had several slight attacks of this "angina," and one rather hard seizure, which was promptly relieved by ten drops of cratægus. I consider it the most useful discovery of the 19th century."

Case 4 is reported by Dr. Halbert in the *Medical Era*, 1901. A youth, aged 20, suffered from congenital (?) valvular heart disease, with dilatation brought on by cycling up-hill, and from imperfect compensatory hypertrophy. Dr. H. found him in a most critical condition in the summer of 1900. "The præcordium was bulging; the apex beat was down to the outer border of the sixth rib; the right heart was greatly enlarged; epigastric pulsation was pronounced; the dyspnoea was terrible to behold, both aortic and mitral regurgitation were extreme, and cyanosis was evident.

Strychnia, digitalis, and every remedy and adjuvant I could think of were used with only temporary effect. After several days I gave cratægus, five drops four times a day, gradually increased to eight drops. At the end of a fortnight the improvement was quite pronounced. The cardiac muscle was steadily strengthening, and affording the needed compensatory action. An unfortunate attack of pneumonia supervened, through which we nearly lost him, but he survived, and again cratægus was given, and persevered for some weeks. A few months after his return from the country I met him in town, and he said he was "all right and attending to business."

Dr. Halbert records two other cases of aortic and of mitral regurgitation respectively, where cratægus restored the heart to a workable and comfortable condition.

Case 5 is interesting as that of an esteemed colleague, Dr. Bernard Arnulphy, of Nice, known to some of us, who records the effects of cratægus on himself in a paper to the *Revue Homœopathique Française* for December, 1900, which compares the action of naja and of cratægus in diseases of the heart.

He writes: "I had an opportunity, at Chicago, of watching the action of *cratægus* on my own person during an attack of influenza, which had affected the heart to such an extent that my pulse was imperceptible, and I could not rise from a horizontal posture without being threatened with syncope. Its action here was on an acute myocarditis, well marked but quite painless, and unaccompanied by cough. I took *cratægus* for fifteen days, at the end of which time I could get up and attend to business. That the cure was thorough is proved by the fact that I have since been able to climb Alpine summits of 3,000 metres without trouble.

Cratægus is as yet unproved, except that Dr. T. C. Duncan, of Chicago, reports that it caused in him "a flurried feeling" due to the rapid action of the stimulated heart," and in a lady prover, first "an unusual rush of blood to the head with confused feeling," followed by "a feeling of quiet and calmness mentally."

Dr. Arnulphy compares, in an interesting and concise way, *naja* with *cratægus*. "Whereas the latter does great service in every form of myocarditis, and exhibits an undeniably tonic action, quiet, moderate, and non-cumulative, on the muscular fibres of the heart, equally suiting both aortic and mitral cases, *naja* is especially curative of acute and of chronic endocarditis."

And he adds, "the insomnia of aortic sufferers is generally helped by *cratægus*."

I regret that I have no clinical experience of my own with this new remedy as yet.

It is well to note that some patients experience nausea if they take the above material dose of *cratægus* before a meal. It is not a suitable remedy for fatty degeneration of the heart. It is safer but slower than digitalis in "toning up" a weak heart. Compare *cratægus* with *cactus*, *naja*, *phaseolus*, and *amygdala amara*.

IV — *IBERIS AMARA*,

of the Natural Order *Cruciferae*, is the "Bitter Candytuft," found in England and other parts of Europe, and named from Spain (Latin, *Iberia*) which was supposed to have been its original habitat.

The seeds are used in making the tincture.

The pathogenesis of *Iberis* begins with the provings by three of Dr. E. M. Hale's students, who reported 150 symptoms, eighteen of which related to the heart. They experienced "dull or stitching pains in the heart, with palpitation and breathlessness on the slightest exertion, pains down the left arm, tingling and numbness, commencing in the fingers of the left hand and gradually extending up the arm; rapid, irregular, and sometimes intermittent pulse; dyspnoea with stabbing pains through the heart. One peculiar symptom which may possibly be a "key-note" — "On turning, in left side a sharp sticking pain is felt, as if a needle were cross-wise in the ventricles and pricked at each contraction" — Symptom 93 in Allen. The pulse was raised to 100 per minute as a maximum in two provers, but after most of the doses taken the pulse rose to 86 or 90; its quality varied, once being described as "accelerated, irregular and jerking, with a peculiar thrill under the finger." Again, as "100 per minute,

with peculiar double beats which seemed to run into each other, full, and easily compressed." There were produced important concomitant symptoms in the two male and one female students—vertigo, nausea, throbbing pain through temples, choking in the throat, excessive nervousness and frightened feeling, &c

Symptoms worse on lying down and on lying on left side, while at the same time, tremblings, weakness and nervousness cause desire to lie down. One male prover passed two thin, clay-coloured stools, resembling those of digitalis. After each dose the ventricular contractions were powerfully increased for an hour or more in all three provers.

Dr. E. A. Gatchell's experiments on frogs in 1877 confirm this effect of iberis. As far back as 1847, Dr. Sylvester (allopath) related to the Provincial Medical Association a series of cases in which he and a colleague had given iberis in doses of one to three grains with excellent results, especially in cardiac hypertrophy, where "it does not diminish the heart's action, like digitalis, but controls its violence and sharp action, softening the pulse." The new drug "occasionally induced giddiness, sickness, or diarrhoea, but these subsided on discontinuing it."

The personal experience of my friend and neighbour, Dr. Proctor, of Birkenhead (who first called my attention to iberis), is valuable, and I am pleased to see it incorporated in his *Materia Medica* by Dr. Clarke, because Dr. Proctor's observations are accurate and matter-of fact—therefore trustworthy.

Case 1.—Dr. P. Proctor, a blonde, aged about 50, after influenza in 1890, suffered from cardiac weakness for two years. Tobacco and all stimulants, except port wine, aggravated his symptoms so much that they had to be given up. All the ordinary heart remedies were tried, but without relief. Iberis amara was taken, and in ten days cured him.

Case 2.—Dr. Chakravarti, of India, reports the case of a railway clerk, aged 30, suffering from rheumatic endocarditis, and consecutive pericarditis with slight effusion, which, after the failure of cactus 3 and of arsen. 30, iberis 30 cured completely in the course of ten days. *Homœopathic World*, June 1905.

I have given iberis 1x occasionally to patients suffering from functional palpitation attacks, and always with benefit. It deserves to be more employed than it has been; I find very few cases recorded, and I hope my colleagues will use it more freely. Dr. Clarke thinks that the symptom, "*conscious of the heart's action*," may be a keynote for iberis. I prefer the "pure" pathogenetic symptom, No. 93 of Allen quoted above, just as we have in the courageous provings by Dr. and Mrs. Rubini of cactus, the characteristic symptom "*sense of constriction round the chest (or heart region) of an iron band*," or, "*as if the heart was grasped by a hand*."

As cratægus needs to be proved schematically, and iberis needs reproving, I commend both to the notice of the Proving Committee of the British Homœopathic Association. I will now proceed to

V.—*STELLARIA MEDIA*,

the common chickweed, of the Natural Order *Caryophyllaceæ*, whose provings by Kopp of New South Wales, in 1893, and by Dr. A. E. Ibershoff's Class in the University of Michigan, in February and March, 1904, display a marked resemblance to the articular, and sometimes to the muscular, symptoms of acute and of subacute rheumatism, also to those of hepatic congestion and enlargement. Hence the interest to homœopaths of this smallest of all phanerogamous plants, hitherto considered only fit for small birds' food. Chickweed, though tiny, is a hardy plant, growing in shady places all over the world, even in Siberia; and it has successfully maintained itself in the "struggle for existence" since the earliest times.

Caged birds cannot maintain their health without it; it is even a tonic, as old Turner (1551) puts it (translated by Gerarde, 1597), "Little birds in cages are refreshed with chickweed when they loath their meate." Another mediæval herbalist writes: "The water of chickweed is given to children for their fits, and its juice is used for their gripes."

Doubtless the abundance of potassium-salts in the plant gives it some anti-scorbutic properties, and may give us an indication of its chemical as well as its dynamic action in rheumatism as a remedy.

Now the question is, to define the sphere of *stellaria*; for we have already many well-tested remedies both for rheumatism in all its forms, and for hepatic congestion, or rather inaction, for the provings scarcely reached the point of what I understand by "congestion." I will now condense the summary of Dr. Ibershoff's proving and add to it such symptoms as Mr Kopp experienced on himself, in so far as they differ from the former series, distinguishing these by "K." The provings directed and superintended by Dr. Ibershoff were made upon twelve male and four female students of the "Homœopathic Department of the University of Michigan," beginning on February 17, 1904, and lasting for four weeks.

The scheme was projected in the very best way to obtain the pure effects of the drug. The whole plant in bloom was macerated in twice its weight of alcohol, and different doses were given to each of the sixteen provers, ranging from one drachm of the $\mathcal{Q}$ tinct. up to four doses of the 30x. For the details I refer you to the *Monthly Homœopathic Review* for July, 1904.

The definite symptomatology of *stellaria* presents the following facts of special interest:—

General.—Lassitude, constant sleepiness, awaking feeling tired and dizzy. Tired, sore, strained feeling as from over-exertion.

Head.—Dull, frontal headache, worse on left side, increased in the morning by motion, by warmth, passing off toward evening. Violent, headache all over cranium.

Vertigo.—Dull supra-orbital headache, worse over the right eye, with faintness. Headache increased from sudden jar or motion. Stiffness and soreness of neck-muscles (2 provers). Rheumatic-like pains darting through the whole head, worse on right side, with the parts sore to touch (K). Ditto in the left half of forehead, over the [left] eye sore to the touch (K).

Eyes.—Smarting and burning, dry feeling, feeling as if the eyes protruded, eyelids feel swollen, and the eyes strained.

Mouth.—Dry, thirst for small drinks at frequent intervals.

Stomach.—Bad taste in mouth on awaking. Nausea, almost constant. Loss of appetite, flatulence, stomach sensitive to pressure.

Chest.—Severe left-side pains. Intermittent stitching pains, especially on left side.

Back.—Sharp pains in small of back over kidneys, coming on suddenly; they reach their maximum slowly and stop suddenly. Sharp, stitching pains in left side of back, in the region of the spleen, severe and intermittent. Rheumatic-like pains across the small of the back, increasing on bending or stooping (K). Stiffness with soreness in lumbar region (K).

Abdomen.—Flatulent distension with colic. Liver engorged, swollen, with stitching pains soreness and sensitiveness to pressure, increased by lying on right side. Pain in left hypochondrium. Pain in epigastrium.

Stool.—Constipation. Violent pain in rectum after stool.

Extremities.—Rheumatoid pains in different parts of body. Sciatic pains. Shooting (rheumatic-like, K) in ankle, hip and knee, below knee-cap (K). Dull ache in left arm and shoulder, increased by rest and warmth. Rheumatic pain in right shoulder, increased by lying on right side. Sharp, shooting pain in left knee, extending into ankle joint. Sharp, darting rheumatic pains in left knee, extending above along the thigh (K). Rheumatic pains darting down right arm and middle and index fingers of left hand (K). Rheumatic pains in calves of the legs, which are sensitive to touch (K). Hands warm, feet cold.

Modalities.—Worse in the morning, from warmth, tobacco, and at rest. Better in the evening, from motion, from fresh cold air; pressure (headache), eating. There are exceptions to these conditions however.

In none of the sixteen provers were there any abnormal symptoms of the generative organs, nor were there changes caused in the blood or in the urine, except in two cases where the alterations noted were due to other causes.

One prover who had been constipated previously, noted an aggravation of this during the first few days of the proving, followed by amelioration, going on to actual diarrhoea.

The "rheumatoid" pains, as Dr. Ibershoff styles them, were in all provers shifting and intermittent. In this, along with their relief from motion, and aggravation from warmth, we perceive a resemblance to *pulsatilla*, but the head, stomach, and liver and bowel symptoms, point to congestion or sluggishness of the functions, and with the morning aggravation, &c, remind us of *nuc. vomica*.

Perhaps the old vernacular name for this plant, "*stitch-wort*," indicates its characteristic, for "*stitching pains*" occur frequently in the provings. If we add to this the *shifting* character of the "rheumatic like" pains, we obtain as nearly as may be in our present limited knowledge of the plant a "keynote" for *stellaria media*.

Dr. Ibershoff believes it "to have a small but well-defined field of action."

The clinical use of *stellaria* in homœopathy began with the report by the late Rev. F. H. Brett of the cure of Mrs. Brett's gout (in the fingers), also of his own gout (in the feet), in the *Homœopathic World* of June, 1893. Mr. F. W. Kopp then proved the plant, and has been very industrious in reporting cases treated with it in New South Wales.

Cases 1 and 2—Rev. F. H. B. and Mrs. B. were treated and cured by the *local* application of *stellaria* ϕ tincture of uncertain strength. None was taken as a medicine.

Case 3—A man suffering from rheumatism, in whom the pains shifted about, now in the ankles, then in the knees, then in arm, wrist or fingers.

The patient was cured. Mr. R. N. Bellairs reports the case in the *Homœopathic World* for January, 1896, but I cannot cite it in full; not having that volume.

Case 4.—A man, aged 27, who had previously suffered from rheumatism, came to Mr. Kopp to consult him about his inflamed left knee joint, which was so painful as to prevent him from walking. Mr. Kopp pronounced it to be rheumatic synovitis. *Stellaria media* 2x, three drops every two hours, was ordered, and the knee was wrapped in bandages saturated with a lotion of the ϕ tincture—sixty drops to six ozs of water. Relief was obtained in a few hours, and complete recovery in a week. (*Homœopathic World*, July, 1902.) I do not think *bry.* or *ledum* would have improved upon this result.

Case 5.—A woman, aged 36, had rheumatic sciatica in the left leg from the hip to the foot. The pain was not so severe in the daytime but at night, as soon as she got warm in bed, the pains were excruciating, darting from the hip down the thigh to the knee, and thence to the foot. *Rhus tox.* 1x was given internally by Mr. Kopp, and the lotion of *Rhus* ϕ tincture, but without relief. Then *stellaria* 2x was prescribed in distilled water, in doses of three drops, every three hours, and a liniment was rubbed into the painful parts morning and night, consisting of *stellaria* ϕ , one part in ten parts of methylated spirit. The patient quickly got well—in a week, in fact, and after some months, up to the date of the writing down the case, there had been no return. (*Homœopathic World*, July, 1905.)

I have just now an obstinate case of "flying rheumatism," chiefly affecting shoulders, lumbar muscles and hips, in an otherwise healthy, robust man of 56, who lives most of his time in the open air in Cumberland, and has contracted the disease from the constant exposure to cold and damp. After the failure of *rhus*, sulphur and puls I found *stellaria* ϕ succeed in *relieving*, but *not curing* them. I was led to choose it because of the shifting of the pains. He travels so constantly that I cannot get any local application used, so possibly the want of *local* *stellaria* lotion or liniment, may have lessened its curative effect. After fourteen days I had recourse to *rhus* again, under which he is slowly getting better.

I do not class this case as a *stellaria* cure, but record it as my only personal experience, thus far. *Stellaria* has a future before it, and I recommend its trial by colleagues.

The last medicine I shall discuss this evening is

VI.—*THLASPI* (or *CAPELLA*) *BURSA-PASTORIS*, the common "Shepherd's Purse," or St. Jame's wort, of the Natural Order *Cruciferae*. Three parts of the fresh plant, in flower, are macerated in two parts of S. V. R. to make the ϕ tincture. Also an effective fluid extract is made by chemists. Analysis proves that this plant contains tannic acid, 6 per cent. of a soft resin (alkaloid), and a sulphuretted volatile oil identical with that of mustard (*Sinapis nigra*), from which the white crystalline alkaloid, theosinamin, is derived by distillation with ammonia.

Thlaspi, which is *thlaspis* (*Thlaspis*) in correct Greek, is first mentioned by Dioscorides of the first century, A. D., as an emmenagogue, abortive, anti-hæmorrhagic and a remedy for sciatica. The seeds of this plant, in his days, were crushed and used for medicine, hence the name, *Thlaspis*, from the verb *Thlao*, "I crush."

The long and clumsy name might be shortened to the modern botanical appellation of "*Capsella*." This late-Latin diminutive of "*capsa*" a box, translates its vernacular name, "shepherd's purse," derived from the flattened, hollow, pouch-like seed vessels hanging at the end of each stem. In botanical lists its full name is *Capsella bursa-pastoris*.

To herbalists and to a few physicians this plant's properties have been known in mediæval times. It has not been systematically proved by the Hahnemannian method, although Fincke reports a trial of it in the *Trans. of the Hahnemannian Association* in 1895 and J. C. Fahnestock, in 1896, obtained the following definite results:—

- (1) Puffy or swollen eyelids.
- (2) Great increase in the quantity of urine passed.
- (3) Copious excretion of uric acid in the form of sand.

In the *Monthly Homoeopathic Review* for October, 1888, our valued and lamented colleague, Dr. Dudgeon, wrote an able article upon *thlaspis*, calling attention to its therapeutic value, and giving cases cured by it, which I shall quote later.

Lejeune, in 1822, used it successfully in hæmophysis. Rademacher, who was born in 1772, and died in 1850, had a high opinion of it. I shall give two of his cases.

Both Dudgeon and Burnett, who notices *thlaspis* in his "Greater Diseases of the Liver" (1891), took up the plant from Rademacher's use of it.

From his clinical experience of *thlaspis* Dudgeon concludes that "this medicine deserves a thorough and complete proving. It is evidently a powerful anti-hæmorrhagic, and its influence on the urinary organs, more particularly in bringing away and in curing excess of uric acid in the urine, is very remarkable."

From the homœopathic journals accessible, I have compiled and tabulated nineteen cases, reported (sometimes imperfectly) by Rade-

macher, Kinil, Jousset, Dudgeon, Raffinesque, Burnett, Deschere, Waldo H. Stone, R. M. Lewis, A. Midgley Cash, J. P. Harper, and Clarke, and Millie J. Chapman. I hope the members present will add to the list.

Cases cured by Thlaspis Bursa-pastoris

Case 1, female, age not stated, reported by Rademacher — A poor woman who had suffered from uric acid sand ten years before, sent again for Dr. R., who found ascites and œdema of legs, and hæmaturia. Thirty drops of the tincture five times a day brought away great quantities of sand, increased the urine, completely removed the dropsy, and restored the patient to health.

Case 2, female, age 30, reported by Rademacher. — Patient came to me for a complication of diseases, no sand in the urine. Thlaspis tried, produced a quantity of it, and this continued until all her morbid symptoms disappeared.

Case 3, female, age not stated, reported by Kinil — Three weeks after partus patient had "strangury" and pain in the urethra, the urine, which was turbid, and deposited deep red sediment, dribbled away, drop by drop. Thlaspis $\varnothing$, thirty drops, five times daily, relieved all symptoms, and in eight days the urine was clear and without sediment.

Case 4, female, age not stated, reported by Jousset. — Obstinate hæmorrhage after miscarriage, unchecked by secar, æocus, perchloride of iron, tampons, &c, arrested by two doses of twenty drops of the tincture.

Case 5, female, age not stated, reported by Dudgeon — A young French widow, after recovery from severe jaundice, had a brownish grumous blood-like discharge after the catamenia for two months, with abdominal pains. Cervix uteri soft and swollen, but *not ulcerated*. The usual remedies failed to check this, nor did coec sulph. or conium succeed. Returning to Paris, she consulted Dr. Raffinesque, who discovered irritation of the right ovary, and post menstrual congestion of the liver. He gave bell, nux, sabina, creos, ferr. m., &c., in the inter-catamenial periods, but no remedy checked or altered the "metrorrhagia," as Dudgeon terms it, until thlaspis 6, then $\varnothing$ and then 6 again, which cured in a month. This interesting case is detailed by Raffinesque in vol. xxxii., pp. 370-4, of the *British Journal of Homœopathy*.

Case 6, female, aged 76, reported by Dudgeon — An old lady had rheumatic muscular pains in various parts, and constant profuse sweats, day and night, and passed uric acid sand with every micturition. Sometimes uric acid calculi, causing much pain in the ureter. After cessation of the sweats and pains, which lasted seven weeks, the sand continued to be passed. Puls, picric acid, lycop, &c., failed but under thlaspis 1 the sand disappeared altogether.

Case 7, male, aged 57, reported by Dudgeon. — A gentleman with dyspepsia, occasionally passed large discharges of coarse uric acid, coming away in masses the size of a big pin's head but without pain. Thlaspis 1 soon stopped this, and for a year afterwards always acted promptly upon any return of the symptom.

Case 8, female, aged 79, reported by Dudgeon.—A lady, nearly 80, was suffering from a calculus (uric acid) in the left ureter, urine very scanty and *not showing sand*. Several remedies failed, and even the copious drinking of *aq. destill.*, which powerfully disintegrates uric acid sometimes, had no effect. Thlaspi 1 caused a great discharge of sand, with speedy relief to all the symptoms.

Case 9, female, age 32, reported by J. P. Harper.—For nineteen months Mrs. — had suffered from chronic diarrhoea and latterly from dysentery, when she came to me, January 12, 1888. Daily in the morning she passes, after the last of the dry dark stool, a teacupful or less of yellow muco-purulent discharge. Also blood was voided with some stools. She is pale, looks puffy, and has slight oedema of feet ankles. After the most careful dieting and strictly homoeopathic medication for two years, Dr. H. failed to give more than temporary relief, until on February 20, 1890, he gave thlaspi 4 mi quater die, which in two days stopped the blood; in three weeks the muco-pus; and in five weeks *cured* permanently a dysentery which had lasted more than three years.

Case 10, female, aged 46, reported by J. P. Harper.—Miss A., suffering from a fibroid tumour of the uterus, had menorrhagia every fortnight, in which calc. carb and sabina failed. She became very pale and anæmic. Given on October 15, 1888, thlaspi 4 four times a day, which arrested the bleeding at once, and for many months there was no return, although the tumour, reduced in size, remained.

Case 11, female, aged 48, reported by J. P. Harper.—Mrs. C., very anæmic and exhausted from constant uterine hæmorrhage, caused by a polypus, was very greatly improved by thlaspi 4. It controlled and diminished the bleeding more promptly and for a longer time than even ergot, of which she had taken quantities. From March, 1889, to June, 1890, thlaspi gave her this benefit, but did not affect the growth of the polypus, which at last was removed by operation.

Case 12, male, reported by Deschere.—A man who "had an obstinate hæmoptysis of unaccountable origin," was cured by thlaspi 4 in doses of ten to thirty drops.

Case 13, male, aged 63, reported by A. M. Cash.—Patient has been ill a long time with his kidneys. He has hæmaturia increased by the slightest movement, and passes also pus and large uric acid crystals in his urine. The sound reveals no calculus. Arnica, mil-fefol., hamam., tereb., all failed, but two drop doses of thlaspi 4 much diminished the blood in five days and eventually stopped it. Three months later he reported that there had only been one slight hæmaturia, promptly arrested by thlaspi.

Case 14, female, age not stated, reported by Burnett.—A lady suffered from uterine troubles, and afterwards from gall stones. The ~~uterine~~ condition was removed by thlaspi (contrast Dr. Dudgeon's case, No. 5). Burnett thinks thlaspi affects the *uterus* in the same way as chelidonium influences the *liver*.

Case 15, female, age not stated, reported by Waldo Stone.—A lady, after a confinement, had suppression of urine, which caused

eclampsia. Thlaspis was given (dose and dilution not stated) with the effect of causing 115 ozs. of urine to be passed in twenty hours, and thus saving her life.

Case 16, female, aged 34, reported by R. M. Lewis.—Mrs.—— (mother of 4 healthy children), whose confinements had been normal, began to develop ascites six months before consulting Dr Lewis. The whole body and limbs were anasaruous, the urine scanty, only 20 ozs. in twenty-four hours; pulse 140, respiration 53. The urine deposited brick-dust sediment, and smelled like that of a horse. After the failure of arsen. and of apis, thlaspis ϕ every three hours, began an immediate improvement, which went on to a complete cure within six weeks.

Case 17, female, age not stated, reported by Millie Chapman.—A lady had long suffered from disease of the bladder, aggravated by local treatment, and from persistent 'rheumatic' pains. Thlaspis 1, and, later, the ϕ tinct. in five-drop doses, expelled a quantity of uric acid sand, and cured all the morbid symptoms.

Case 18, female, reported by M. Chapman.—Another case of similar bladder irritation, with marked evidences of gout also, was promptly relieved by thlaspis.

Case 19, female, age not stated, reported by J. H. Clarke.—A lady who had been curetted several times with but little success, to arrest uterine hæmorrhage, consulted Dr. Clarke to save herself from a further operation of the kind which was deemed essential to her recovery. Thlaspis 1x stopped the hæmorrhage and restored the normal menses. She recovered her strength, and there has been no further return of the trouble. Dr. Millie J. Chapman also confirms this efficacy of thlaspis, in place of curetting.

These nineteen cases may be thus summarised:—

Uterine hæmorrhage, idiopathic, or symptomatic of tumour	4
Metrorrhagia, with peculiar discharge	1
Dysentery	1
Gallstones, subsequent to uterine complaint	1
General dropsy from renal congestion	2
Retention and suppression of urine	2
Hæmaturia from renal calculus	1
Calculus in ureter	1
Gout, rheumatism, and rheumatic gout	4
Excessive discharge of uric acid crystals	1
Hæmoptysis	1

Total, three males, sixteen females 19

The above cases demonstrate the leading diseases or ailments for which thlaspi is effective.

Dr. Heer, of Berlin, in 1857, found it cure the dysuria of the aged with painful micturition and spasmodic retention.

Dr. S. A. Jones reports, in the *Hom. Recorder* of January, 1892, a case of chronic hæmaturia cured, but I have not the journal, before me.

Dr D. H. Stone, in the *Medical Century* of December, 1898, makes this important observation: "In cases where retention of nitrogenous waste-matter was the principal difficulty, I have tried thlaspi and found it of no assistance in eliminating urea and allied substances where the kidney is diseased, as in acute and chronic nephritis, and in uræmia occurring during gestation . . .

"It is of value as a diuretic, in washing out accumulations of nitrogenous waste-matter below the kidney. I have found it valuable in albuminuria occurring during gestation, where it both reduces the œdema and lessens the quantity of albumen."

Its action upon the secreting tubes and malpighian cells of the kidneys, in promoting the crystallising out of urea and of uric acid, whenever the elements composing these organic compounds are in excess of the normal, seems to me to be the characteristic of thlaspi (or capsella, as I prefer to name it) and to berberis vulgaris, and its hæmostatic power, especially in cases where the blood was poor in fibrine, is undoubted.

The suggestion of that shrewd clinician, Dr. Burnett, that "thlaspi acts upon the uterus much as chelidonium does upon the liver," should be put to the test in practice. For my own part I have always found Burnett's hints of practical value.

Altogether I can endorse Dudgeon's recommendation of thlaspi, and I trust my colleagues will use it freely in their practice. New provings must be made to correct, add to, or corroborate what has been already done by Fincke and Fahnestock.

I must now bring to a close this lengthy paper, thanking you for your patient attention. Next session, if spared, I propose to take up six more remedies, treating them as concisely as is possible, viz., lactic acid, lemna minor, lathyrus sativa, œnanthe crocata, passiflora incarnata, and spiritus glandium quercus.—*The Journal of the British Homœopathic Society*, July, 1906.

Gleanings from Contemporary Literature.

THE ARTIFICIAL GENERATION OF LIFE.

By GER. RATH PROF. DR. W. ROUX.

[With a note by J. Butler Burke, M. A. (Camb. & Dubl.)].

[Reprinted from the "Umschau," 1906, No. 8, the weekly journal of the work and progress of the combined departments of Science and Technical Knowledge (Frankfort a. M., H. Bechhold)].

THE political newspapers and popular science journals are publishing accounts of the artificial generation of life and exciting universal amazement amongst their readers. The element of amazement arises, however, mainly from the interpretation put upon the matter by the imagination of the writers of these accounts; the experimenters themselves speak with considerably greater caution.

According to a communication in the English periodical *Nature*, No. 1,856, May 25, 1905, Mr. John Butler Burke sterilised some gelatine and placed it in a small tube with radium salt. After twenty-four hours there appeared on the surface of the gelatine a peculiar culture-like growth which gradually made its way downwards into the gelatine. When examined under a microscope a distinct growth was apparent; this was followed by subdivision of the circular bodies when they had reached a certain size, viz, 0.0003 mm., and they often took a rosette-like arrangement. Mr. Burke thinks the name *Radiobas* (Radium organisms) might be given to these bodies. Professor Sims Woodhead asserted that their resemblance to bacteria is only an apparent one. He showed that the forms, when removed to fresh gelatine, increase still further in size, and that on heating the cultures till the gelatine dissolves they disappear, but become visible again after a few days.

Mr. Littlefield is stated to have obtained a similar result by quite a different process. To a 33 per cent. solution of common salt there was added the same volume of 90 per cent. alcohol. Small quantities of this mixture were placed in watch-glasses, a little ammonia was added, and the whole covered with a bell-glass. In half an hour drops were visible on a slide with the aid of a microscope. Crystals of common salt settled out first, then crystals from which emerged small oval or round forms which are alleged to be living organisms, since they grow, and, like, amoebæ, send out moving processes.

But, assuming that the account of the directly observed results of these two experiments is absolutely correct, the conclusion drawn from them, that forms corresponding to living organisms have been obtained, is by no means justified.

These unjustifiable conclusions arise from the want of a complete definition of life in its simplest form. A quarter of a century ago I formulated such a definition* of living organisms on the ground of their peculiar property of self-preservation and the persistence of their species through the ages, notwithstanding alteration of material and environment, and I have recently more completely established this definition.†

It is impossible to make a purely chemical definition of life, such as, has long been sought, because life is intimately bound up with those physical aspects which are not merely the result of the chemical constitution, but rest also on a special physical structure. The definition of life can at present only be made on the basis of the activities of the living organisms, so far as we know them. Such organisms, at their simplest, are natural bodies which (1) absorb foreign materials into themselves (*absorption*), and (2) convert them into substance resembling themselves, assimilate them (*assimilation*); (3) change themselves, by means of processes taking place within themselves ‡ (*Dissimilation*, e g., consumption of albumen, fat, &c.,) or, on the other hand, may remain entirely or almost entirely unchanged (4) by spontaneous secretion of the altered material (secretion of carbonic acid, urea, &c., in animals, of oxygen, &c., in plants), and (5) by *spontaneous repair* through absorption and assimilation of food; and (6) may grow by over-compensation in the repair of the used-up material (*spontaneous growth*); further, (7) from causes lying chiefly in themselves they are able to move themselves (*spontaneous movement*, *reflex movement*), and are also able (8) to subdivide themselves (*spontaneous subdivision*, *spontaneous multiplication*), and (9) to transmit their characters entire to the organisms which spring from them (*transmission*). It remains to urge emphatically that *all* these long-known activities belong together, and that they are in their own way *fixed, determined, in the organisms*, even though their perfection is often dependent on external factors, and though their activities are somewhat modified by external influences. The *sum* of these activities is what determines the character of the living organism, as well as the *highly developed faculty of self-preservation*. Living organisms are primarily concerned with the renewal and preservation of their species, and when food is present they take what is necessary to maintain their own existence.

* "The Struggle of the Parts in the Organism," Leipzig, 1881. Also in "Collected Treatises on the Mechanics of Development," Vol. I, p 387, 1895.

† "Suggestions on the Mechanics of Development I The Mechanics of Development, a new Branch of Biological Science," p 105 Leipzig, 1905.

‡ In the lower organisms dissimilation is not an absolute and continuous process as it is amongst warm-blooded animals, but it is essentially conditioned by the using up of energy and the wear and tear of the machinery through action. Many experiments made on cold-blooded animals, as for instance by drying and freezing, indicate complete suspension of metabolic changes. The continuous destructive decomposition of the warm-blooded animals, however, exists in self-preservation, since but for the maintenance of a higher temperature their machinery would not perform its functions and they would consequently be incapable of self-preservation.

Forms exhibiting the activities here enumerated would certainly be accepted as living organisms. But there is yet another essential property of all forms of life, even the lowest: (10) *the spontaneous regulation of the exercise of all specific activities*; the more, for instance, they are deprived of food, the greater is their desire for it; when a certain quantity has been absorbed the capacity for absorption is diminished; the more foreign materials have been formed, the more possible is it to secrete them, &c. By means of this power of regulating function, which of course, is not without its limits, the faculty of self-preservation, and with it the *persistence* of the organisms, is substantially increased; indeed, when changes occur in external relations, this power is indispensably necessary in order to prolong existence. We must, therefore, regard the *spontaneous regulation of function as a further "primary property"* of the living organism. With it is associated also the *power of adaptation* to changing external relations (for instance, to change of the accessible food supply) and, amongst higher forms, to changes of climate, to changes of habitat, to or from a flat or a mountainous region; that is, to the consequent alteration in the mode of life and in the various instinctive activities. It is only by means of this power of adaptation that self-preservation becomes possible in the face of changes in these relations.

Since all this adaptability (conformability), as it is called, in the activities of the organisms, serves only to prolong their existence, it is more appropriate to speak of the *persistence* than of the *adaptability of the organisms*, and to speak of their *recuperative and progressive activities* rather than of their adaptable activities, a suggestion (v. No. 1, p. 214) accepted by various authors (*e.g.*, Ostwald) and attacked by others (*e.g.*, Ed. v. Hartmann).

No form which does not exhibit *all* these activities can be described as even the lowest kind of living organism. But where these exist we need not concern ourselves with their origin or special chemical and physical nature. It is, however, essential that such forms should, in addition, possess special properties in order to continue their existence on the earth. They must, for instance, be insoluble in water, since they would otherwise be liable to be destroyed by the frequent rains, and so would not be able to persist through the centuries nor reach any further stage of development.

The higher organisms possess, in addition, many other properties, as for instance, the power of assuming various forms (the *spontaneous development* of all characteristics of class, genus, species, &c.), and the manifold psychological activities, all of which are determined according to the substance of the organisms, but do not now concern us. To emphasise once more the essential point; the organisms participate in the *renewal and preservation* of all their special "typical" mechanisms of self-determination and self-preservation, as well as in the production of the outer factors which are determined from within; that is, which depend on their own physico-chemical structure. "Typical" in this definition is a

more strictly limiting conception than "normal," which has hitherto been adopted.*

Turning now from what is known to the experiments of which mention has been made, let us ask whether the forms produced in each of the two experiments present *all* these primary activities of life.

Of Burke's forms it is only asserted that they grow and subdivide. We must, in the first place, enquire whether this growth is "spontaneous growth"; in other words, whether it takes place in accordance with the characteristic growth of the organisms by means of new living substance formed in and by the organism itself, by assimilation of other materials *within* the organism, and not, like crystal growths, consisting of accretion of external materials surrounding it, even though these materials have been produced by the influence of the form itself, or whether it depends only on a propagation of this influence, like the propagation of warmth, or of diffusion.

In the second place we must ask whether the subdivision of the forms which has been observed is really *spontaneous subdivision*, and whether it takes place by means of influences which are determined *within* the organism in accordance with its nature. On this point nothing is said, but it may, perhaps, be the case. It may, however, be remarked that apparent subdivision takes place under many conditions. For instance, if we place a drop of alcohol on water, or a drop of oil on a solution of soda, the drop divides very quickly, and apparently spontaneously, into four parts; in reality, however, it is divided by the influence of the surface tension. Now is the rosette-like arrangement peculiar to or characteristic only of living forms.

It will be seen at once that the main point is absent in the "observed" activities of Burke's forms; the proof, namely, that these activities correspond to the same activities in the lowest forms of life, that they are, in fact, "spontaneous activities" of the organisms. Besides, it is not probable that the mechanism of the two very different "organic" activities, assimilation and spontaneous subdivision, could be effected in so direct a manner; that is, by the direct energy of radium alone. But even if this were possible and had here taken place, these forms might still be considered as very interesting *preliminary stages* of life, as "pro-bionts" (*Probioten*), but not as representing even the lowest forms of life, for they are without the activities of spontaneous dissimilation, of spontaneous secretion of changed materials, and of the spontaneous movement which is characteristic of living organisms, as well as of the spontaneous regulation of the performance of all activities.

Although the results of Littlefield's experiments are said to be different from those of Burke's, they are yet less inconclusive as to the artificial production of living forms. I have repeated these experiments and obtained results which in many ways apparently correspond to those described, but I ascribe to them a wholly different significance.

* See No. 2, p. 122.

On the saturated ammoniacal solution of common salt in alcohol many small separate forms appeared moving hither and thither. But scraps of filaments arising from the impurity of the liquid floated about in the same direction, thus showing that the movements of the individual forms are not active, but passive, depending on the motion of the liquid. This, however, is by the way.

On the evaporating circumference of the drop, crystals separate, many of which have an area of liquid which has either been left on them or has possibly caught on them or has run over them. Thus we have forms which closely resemble cells. The liquid area may also have processes which, in consequence of further drying or of the altered surface tension, change their form and so present the appearance of slow amoeboid movement. But in all these it is only a question of forms arising from unequal moistening capacity of the glass, or its unequal surface and unequal surface tension. Any one can produce similar forms to any extent by pouring water over a glass plate held obliquely; after most of the water has run away such forms are visible to the naked eye. If there are on the glass plate small unevennesses or dusty spots which are more easily moistened, the liquid collects on these parts, and on looking at it from above we again have the cell form with the nucleus in the middle and processes outwards, the latter of which change their form on further contraction or moistening. These well-known phenomena show that forms may be produced resembling amoebae, but without their essential characteristics. Besides, the motion of amoebae often depends on alteration of surface tension through external causes. But in the case of their spontaneously regulated movements the movement is produced from within and is definitely characterised.

Moreover, numerous pale yellow, very small and round, or oval and flat disc-like forms were noticed, sometimes near these liquid area crystals, sometimes at a distance from them; these are probably Littenfeld's organisms. To me they appeared to be residues left after evaporation, or deposits on dirty places on the plate. Perhaps they are partly produced like the flat drops which may be seen forming on the side of a vessel only partly filled with alcoholic liquid. Alcohol first rises invisibly, and gradually becomes visible on the sides; perhaps even a mist is deposited at a suitable temperature; in this way drops are formed which gradually increase in size; other drops are formed in the same way all about them, often appearing to issue from the earlier ones. These are well-known phenomena which, however, have nothing to do with specific organic "spontaneous growth." I have never seen any growth in the small pale forms which arise in great numbers as the evaporation proceeds, although I do not assert that such phenomena are impossible, for we know that instances of the kind may be found in similar artificial forms. The deposited drops just mentioned increase in size visibly; this, however, is not spontaneous growth, but passive growth, according to my definition. On large freshly-moistened glass surfaces diffusion of the

liquid used for moistening is frequently seen. This division is caused by retraction of the layer of liquid at some points of closer adhesion. It is not, however, spontaneous division, but is division "effectuated" and determined from *without* and influenced by the exact degree of surface tension, and is not connected (through qualitative bisection) with transmission.

We often can produce no direct, but only indirect evidence of assimilation and of the spontaneous growth which depends upon it, as also of spontaneous division, in the actual lowest forms of life. In order to adduce direct proofs of assimilation it would be necessary to watch for days together to see that materials differing in appearance were taken into the organism, that these did not accumulate in large masses different from rest of the organism, but gradually disappeared. Even then assimilation is only indirectly proved by the fact that the vital force, instead of being reduced by taking in so much foreign material, is, on the contrary, increased, inasmuch as subdivision of the organisms goes on. If this subdivision has gone on through *several* generations, and has always resulted in forms resembling the original in shape and function, then we have a clear proof of spontaneous assimilation and of spontaneous division.

The actual lowest forms of life exist for the most part in aqueous fluid and prove by the fact of their remaining intact that they are not soluble in it. The artificial forms spoken of, on the contrary, are soluble in water, they are incapable of maintaining their existence in it, and in this respect also they are lower in the scale than living organisms.*

We have recognised, then, on the one hand, that the artificially-produced forms are devoid of the primary activities essential to even the lowest forms of life; and on the other hand there is no proof that the activities observed depend on the power of spontaneous determination which is characteristic of living organisms, or that they are capable of that spontaneous regulation which alone would enable them to persist throughout many changes in external relations.

The *inadequacy of the definitions of the nature of life* formulated and promulgated by philosophers, naturalists, and even some physiologists,

* While this paper was in the press there appeared (in the Karlsruhe Journal) another communication on the same subject giving an account of some interesting observations made in the Physical Institute at Karlsruhe under the famous physicist O. Lehmann, it was also widely circulated under the misleading title of "A New Physical Wonder". It gave an account of drops which form buds and divide, then assume a worm-like shape and afterwards separate into many parts. They crawl about like the Butschki drops mentioned, but more quickly. These forms, which seem to be produced mainly by changes in surface-tension in a manner which makes them appear almost typically peculiar, must also be tested as to the degree of their resemblance to living forms by the analytic method of examining functions given above; and the nature of the forces in question must be narrowly scrutinised and compared with the influences which have produced organic phenomena of a similar kind. Perhaps here we shall come upon the beginning of that spontaneous division which is essentially determined from within.

is ultimately responsible for the unwarranted interpretation of these forms as being actual organisms of the lowest stage. They think that what is needed is something simpler, more universal, more direct, than what I have given above, *the sum of widely differing* individual activities and the spontaneous regulation of these. Even if we leave out of count those authors who take the supernatural view and would have a "purposeful agent" (conscious First Cause) in the processes which result in life, yet we cannot disregard those who believe there could be a "simple" chemical process or a simple physical agency which could produce all these activities. According to this view a "simple" experiment might happen to produce this direct agent and thus suddenly give rise to forms of life. But there is a fundamental error in this view. The sum of the different activities described above alone indicates the minimum of actual life, and only those forms which possess this sum of activities reproduce similar forms, nor does this reproduction depend on the aid of a purposeful agent, but, the forms once in existence, reproduction depends only on the pre-determining tendencies inherent in their material basis.

Admitting all this, however, it would be vain to assert that in principle we could never artificially create the lowest forms of life perhaps with very slightly developed spontaneous regulation. This however, cannot be done by a single experiment, but only by *a method series of experiments* in which we must first endeavor to produce forms with one or a few primary individual activities. The insight which has been gained can be turned to account by combining the successful results already secured. Only thus shall we be able gradually to produce bodies which will combine all the *activities* indicated above *which are necessary for self-preservation by the processes of change in material corresponding to change in external circumstances*, and which will then continue and multiply. Forms possessing certain of these activities, spontaneous movement, spontaneous absorption, and spontaneous secretion of material, have already been artificially produced by Batschli, Quincke, Rumbler, and others. Spontaneous chemical assimilation, spontaneous growth, spontaneous secretion of altered material and a certain amount of spontaneous regulation in assimilation and secretion are typically represented in the processes of assimilation by heat. Since, however, the other activities of self-preservation are absent in bodies thus produced, their power of persistence is inadequate. As soon as cold assimilation processes of a suitable nature (according to Pflüger, cyanide compounds) are employed, it is possible that high preliminary stages of life might be produced artificially by combining these with the processes for the last-named forms. Spontaneous division, spontaneous regulation, and "morphological assimilation," which presents special difficulties, would then follow. We shall then, perhaps, attain in the laboratory by observation and study in a relatively short time to what in nature has only arisen in the course of vast periods of time as the result of a fortuitous concurrence of

circumstances and of a spontaneous storing up the forms capable of self-preservation through changes in material and thereby of "persistence."

If, then, it is certain that the above-mentioned experimenters * have produced no actual forms of life, even of the lowest order, and have not solved the problem of the artificial creation of life, and if this problem cannot be solved by one kind of experiment alone by reason of the number or primary life-activities necessary even to the lowest organism, we must assume that further research will be necessary in order to ascertain how far the various experiments of these writers are a new and valuable contribution towards the solving of this problem by the slow method insisted upon above, namely, the combining of artificially produced individual activities †.—*Knowledge*, July, 1906.

* Including Charlton, Bastian, Stadelmann. (MS. note.)

† This is practically the argument used in *The Origin of Life* which has just been published. I do not think however it is likely that we shall succeed in producing artificial forms of life which would correspond to the organic types existing naturally in nature. The probability of hitting on the exact conditions would be infinitesimally small. The most we can hope to do, as I have tried to show, is to imitate these by approximation. The artificial types, of course, do not satisfy all the conditions of natural life, it all depends, therefore, upon what we understand by life. If a scale of gradually increasing complexity can be established, from the supposed inanimate to admittedly animate nature, there should be no reason why we should confine the definition of the life to natural types which have survived on account of their fitness for their surroundings. As a curve may approximate to its asymptote, so may artificial life approximate to natural life. But as the latter is the survival of countless generations, it is likewise to be expected that it should be more perfect than anything that by artificial means we should ever hope to obtain. I believe the subdivision of the radio organism proceeds from the interior, as I have tried to show, and that the growth is not by accretion, but by assimilation, as in the case of most organic crystals. They appear to assimilate sulphur and other substances from the medium in which they grow.

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• GOETHE ON HOMŒOPATHY.

Two leading intellectual stars illumined the sky of Germany at the same time. They were Goethe and Hahnemann. Goethe was senior to Hahnemann by a few years. Hahnemann could understand and appreciate the scientific innovations made by Goethe. The latter on the contrary could not feel the cultured influence of Hahnemann or his great scientific truth. In Faust, Goethe has made a satirical allusion to homœopathy.

“ A BRUNETTE.

To sponge upon you, what a crowd's advancing !
I beg a remedy : a frozen foot
Annovs me much, in walking as in dancing ;
And awkwardly I manage to salute.

MEPHISTOPHELES.

A gentle kick permit, then, from my foot !

THE BRUNETTE.

Well,—that might happen, when the two are lovers.

MEPHISTOPHELES.

My kick a more important meaning covers :

Singula Similibus, when one is sick.

The foot cures foot, each limb its hurt can palliate ;

Come near ! Take heed ! and, pray you, don't retaliate.”

It is a pity that Goethe could not appreciate the greatness of Hahnemann's method of cure. The man who could unravel the

mystery of the metamorphosis of plants, who could explain the expansion of the skull from a vertebra, was not struck with the evolution of the law of cure. Though he was dead to the truth of homœopathy, yet he had the notion of the powerful working of nature.

"Not Art and Science serve, alone ;

Patience must in the work be shown.

Long is the calm brain active in creation ;

Time, only, strengthens the fine fermentation."

Then again,

"*Encheiresin naturæ*, this Chemistry names,

Nor knows how herself she banters and blames !"

A commentator explains,

"The phrase *encheiresin naturæ* signifies, properly 'a treatment of nature.' Here, however, Goethe seems rather to indicate the mysterious, elusive force by which nature operates."

In a letter to Wackenroder, Professor of Chemistry at Jena, written in January 1832, Goethe says :

"Notwithstanding we willingly allow to nature her secret *Encheiresis*, whereby she creates and sustains life, and, although no mystics, we must finally admit the existence of an inscrutable something,—yet man cannot, if his aim be earnest, restrain himself from the attempt to drive the inscrutable into such close quarters that he is at least satisfied and willing to confess himself defeated."

Encheiresin Naturæ may be compared with *Vis Medicatrix Naturæ*. It was said by the earlier opponents of Hahnemann that he did not believe in the healing power of Nature. The fact is that they did not understand the real meaning of the passages cited in the *Organon*. The reproach was mistakenly hurled on Hahnemann in 1830. In his *Essay on a New Principle* published in 1796 he maintained the efficacy of Nature in healing when unopposed by obstacles of badly selected remedies. In Amedee's History of Homœopathy the arguments of Hahnemann extolling the action of Nature has been described. The series of the writings of our great master will be found in

his *Lesser Writings*. The power of Nature in healing diseases has been enunciated and maintained by him throughout his brilliant career.

Goethe's belief in Nature and his practice went side by side. His advice is shown in the following lines :

“ When the Spring returns serener
Raining blossoms over all ;
When the fields with blessing greener
On the earth-born children call ;
Then the craft of elves propitious
Hastes to help where help it can :
Be he holy, be he vicious,
Pity they the luckless man.

Who round this head in airy circles hover,
Yourselves in guise of noble Elves discover !
The fierce convulsions of his heart compose :
Remove the burning baits of his remorse,
And cleanse his being from the suffered woes !
Four pauses makes the Night upon her courses,
And now, delay not, let them kindly close !
First on the coolest pillow let them slumber,
Then sprinkle him with Lethe's drowsy spray !
His limbs no more shall cramps and chills encumber,
When sleep has made him strong to meet the day.
Perform, ye Elves, your fairest rite :
Restore him to the holy Light ! ”

A commentator says : “ Goethe firmly believed in healthy and final recovery from moral as from physical hurt ; his remedial agents were Time and Nature. . . He overcame his own great sorrows by temporarily withdrawing from society and surrendering himself to the influences of Nature ; and we are to suppose that Faust repeats this experience. The healing process is symbolised in this opening scene, wherein the Elves represent the delicate, mysterious agencies through which Nature operates on the human soul.”

The death of several eminent men from bleeding raised the judicious protest of Hahnemann against the methods which were directed to draw out the vital fluid. The Austrian Emperor Francis, Goethe, Raphael, Mirabeau, Lord Byron, Gessner, Cavour and many other eminent men died of the blood-thirsty treatment. Hufeland, the friend of Hahnemann, had personal intercourse with Goethe and for him he had high regard. Goethe with all his brilliant intellectual attainments was a voracious eater. Purgatives were daily used by him. Then there was from time to time venesection which allowed profuse bleeding. With all these obnoxious methods, in 1830, he had a copious hæmorrhage from the lungs. Over and above the double bleedings, a third was made by Dr. Vogel to the amount of two pounds. This detestable treatment was supported by Hufeland, the friend of Hahnemann. It was an unfortunate affair that Hahnemann was not called to treat his great countryman.

COMMON DISEASES AND THEIR TREATMENT.

(Continued from p. 273.)

Solanum Nigrum is Black Night shade. Clarke quotes from Green's Herbal thus : "The leaves applied externally ease pain and abate inflammation. Too large a quantity occasions violent sickness and headache, giddiness, drowsiness, and other dangerous symptoms. The Arabians apply the leaves to burns and ulcers, skin diseases, and scrofulous and cancerous affections ; they are diaphoretic, diuretic, and purgative."

Hale, remarks : "The swelling is very painful, it enlarges, becomes shining hard, and deep red ; and in several places, quite black The black hue of the swollen parts grows deeper, the fingers are stiffened The tip of the nose, the hands, from the finger-tips to the knuckles, and the toes to the tarsal joints become quite black as if regularly dyed." Clarke aptly says that the skin effects of the Black Night Shade is that they have a tendency to blackness. The black discoloration shows that veins are more affected than the minute arteries. The sloughing is an indication of the almost cessation of circulation

of the arteries and veins. The particular point to remark is that the veins are especially inflamed.

The symptoms are: All muscles sore to touch; bruised feeling of the whole body; great sensitiveness to cold air; great swelling and intolerable itching of face, eyelids, lips, hands, and feet; hands, feet, and nose painful, swollen, and black; shining, painful; swelling and black discoloration diminish together, and are followed by desquamation; itching burning of extremities; sloughs are detached from face, but right hand swells up again; swelling of feet, arms, abdomen, scrotum and penis; pain in right knee extending up to hip; chronic ulcer on feet.

The inflammation may be so great as to cause delirium with piercing cries, or apoplectic stupor. Dilatation of the pupils occurs like Belladonna with the same dryness of mouth and throat. On the whole *Solanum Nigrum* has more powerful action in producing inflammation than Belladonna. Clarke has mentioned a case of Cooper. "Patches of psoriasis, knees, elbows, and forehead, scaly, with red irritating spots at roots of hair." After one dose of the mother tincture this condition disappeared.

It produces the sensation of blow in the forehead. Naja has it on the occiput. Then there is the splitting headache of *Solanum Nigrum*.

Spigelia Anthelmia is the Pink root. Of it Hempel and Arndt say: "A native of the West Indies and South America. It was first introduced as a drug by Dr. Browne in 1751. It is known in the books as the Demerara pink-root. Its action is similar to the *spigelia marilandica* or caroline pink root. In collating the symptoms of *spigelia* Hahnemann uses indiscriminately both varieties."

Hughes writes: "The tincture is prepared by maceration from the dried root of the *Spigelia Anthelmia*, the Demerara pink-root, which was that proved by Hahnemann. The ~~Caroline~~ pink-root *S. Marylandica* seems to have the same properties, and Hahnemann has admitted symptoms produced by it into his list, though Allen separates them."

The fact is that *Spigelia* contains symptoms both of *S. Anthelmia* and *S. Marylandica*, though we use mostly *Spigelia Anthelmia*.

With regard to inflammation Allen remarks: "Its febrile symptoms are not marked and it seems not to be useful for inflammatory affections, more than as palliative of the pains accompanying such conditions."

We take exception to these remarks that *Spigelia* has not developed febrile symptoms or proved curative in inflammations. It is an admitted fact that if the major symptoms are cured by a medicine, the minors may disappear. This fact was verified in one of the cases in the early days of our homœopathic practice. A person was suffering from fever which commenced from morning and lasted almost the whole day. He had inflammatory swelling of his right leg, supervened on his elephantiasis. *Spigelia* cured the fever as well as the inflammation.

Spigelia has the following symptoms which can affect inflammation. *Sensitiveness to touch, the slightest knock causes pain and shuddering about the place, even on stopping shuddering in body; if he knocks against any part there is sudden painful crawling through whole body to head.* (Arn., Bell., Chin, Nux V., Puls.). Everything hurts him as if he were bruised (Arn); weakness in morning on walking, *fatigue worse on walking, with bruised feeling in spine*; tearing pain in the extremities.

Allen adds the following clinical symptoms: "The *spigelia* patient is worse from any motion of the arms and from lying on the back." Its neuralgic pains are intense and affect all the parts of the body. The inference is that it produces more action on the nerves than on the muscular fibres or other tissues. It has decided action on the glands. *Spigelia Marylandica* is said to have swelling of face and about eyes.

Staphisagria is *Stavesacre*. It has the following symptoms: *"Drawing tearing here and there in all muscles when sitting* (Puls); *bruised sensation when walking, worse in calves; pain in all bones; weakness in morning in bed, limbs pain as if bruised and as if there were no strength in them; has been used as an*

application for healing recent wounds; painful inflammation of bones and periosteum; swelling of bones; suppuration of bones and periosteum; painful sensibility of all muscles when touched, and of joints when using them; mechanical injuries from sharp cutting instruments; sore and stiff all over, swollen fingers and sore tibiae; relieves pains of cancer; osteites of phalanges of fingers; pulsating pain in hip joint as from beginning suppuration; right toe inflames round nail and forms an abscess.

Allen had the following clinical observation: "Neuralgia after operations. Frequently an antidote to chronic effects of Mercury."

It seems that *Staphisagria* creates more painful inflammation of bones and periosteum than of other tissues. It may be the effect of syphilis and mercury or of other causes besides them. On the whole, *Staphisagria* may be applied in cases where there is inflammation of bones, periosteum or the surrounding tissues.

Stillingia Sylvatica has, Bone swellings in head and forehead, in latter size of hen's eggs; mercurial periostites of skull; pulsating pain in elbow and leg in evening with soreness; shooting from middle third of humeri down to fingers; soreness of muscles all over; feels as if he had taken a severe cold. Clarke says: "*Still.* attacks the periosteum and produces pain in the bone. It has removed nodes on the forehead, tibia, and elsewhere and arrested caries of the nasal bones. Pain in the cranial bones and the headaches of syphilis. It is not confined to syphilitic cases in its action. It has a popular repute in scrofula, skin affections, liver diseases, and rheumatism—all of which the provings confirm."

Strontium Carbonicum has the following symptoms: The majority of the pains, the exact situation of which it is difficult to determine, seem to be in the medulla of bones; the symptoms imperceptibly increase to a certain intensity, and diminish in the same manner; affections in joints of legs; aggravation at night, evening, from cold in general, from undressing, after lying down and rising again, from rubbing, from open air especially heat of sun; trembling of limbs; veins of arms and hands

injected and large; swelling and caries of femur; sprains especially of ankle; swelling of feet bruised in back and sacrum.

Clarke remarks: "The tension is manifested in the nape, as if the tendons were drawn up; tensive drawing in dorsal and lumbar muscles. In the arms there is venous tension: 'the veins of the arms and hands are injected and tense, with great prostration and ill-humour—suggesting phlebitis and varicosis. *Stro. c.* has a relation to sprains and bone affections. The femur is especially affected by it. It is particularly suited to bone affections of scrofulous children, when associated with diarrhoea. . . . *stro. c.* is indicated in chronic sprains of the ankle when œdema exists. C. M. Boger (*H.R.*, xv.339) cured with *stro. c.*, after other remedies had failed, a sciatica accompanied by œdema of left ankle."

The following are the peculiar symptoms mentioned by Clarke: As if tendons of neck were drawn up. As if bruised in back and sacrum. As if all power had left right arm. Gnawing as if in marrow of bones. Symptoms as if in marrow of bones. Symptoms like phantoms difficult to locate, external soreness is a note of *stro. c.*; also numbness, emaciation has been caused by it.

Strychninum has cured abscess of the scrotum. Left spermatic cord painful, left testicle shrivelled, painful only on standing or walking; hard swollen, later burning pain of left side of scrotum where the skin was tense on the testicle, and a large abscess formed in the dartos and cellular tissue; this was opened by a small incision, and yielded a very large quantity of semi-transparent fluid, partly mixed with blood, after discharge of which the size of the testicle became somewhat less; there was no connection between the testicle and the abscess.

Sulphur has a wide range of application in inflammation. It has the following symptoms: Inflammatory swelling of joints, with heat and redness; bruised feeling, and drawing, tearing pains in limbs (in outer parts, in muscles and joints, from above downwards; arthritic swelling and heat; jerking, sharp pains (tearing), and shooting in joints and muscles of arms, hands,

and fingers, and also in shoulders, chiefly at night in bed; swelling of arms sometimes with heat, hardness, and lancinating or tensive pains; sprained pain and stiffness in wrist, worse in morning; ganglion; swelling of hands and thumbs; rigidity and wrenching pain in joints of hands and fingers; ulcers about nails; paronychia; swelling and inflammation of points of fingers, with subcutaneous ulceration and boring and pulsative pains at night; pain as from subcutaneous ulceration, in buttocks and in ischiatic tuberosities, especially where touched, and after having been seated for a long time; purulent and painful swelling in buttock; pain as from a wrench, and as from a bruise in hip, on least movement, with shooting pains at every step; pain in hip with contraction of leg; red, oozing, painful spots on the internal surface of thighs; middle of thigh as if broken; large (white or shining) swelling of knee, with stiffness and painful weariness; phlegmasia alba dolens; bluish spots and swollen and varicose veins in legs; sprained pain in ankle when standing and walking; burning and inveterate ulcers on legs or heel; swelling of feet, and especially of the ankles; red, shining swelling of the toes; redness and swelling with tendency to suppurate; ulcerated and gnawing vesicles in toes; inflammation of mucous membranes in general; swelling of glands; the majority of the sufferings are worse or appear at night, or in evening, and also during repose, when standing for a long time, and on exposure to cold air; they disappear on walking, on moving the parts affected, and also in warmth of a room, but the heat of the bed renders the nocturnal pains insupportable; several symptoms appear periodically; inflammation, swelling, and painful sensibility of bones; on the bones sensation of constriction, or as if a band were around them. Sulphur has action on the varicose veins.

Hempel and Arndt say: "In the treatment of varicose veins sulphur plays no unimportant part; it exercises healing powers by removing the torpor of the vessels and restoring the irritability of the capillary tissue. A boy of eleven years had scarlet fever. The disease left him with an inflammation of the parotid gland.

which broke, forming an open abscess a little below and behind the right ear. The abscess had been open for several weeks. The opening was oblong and of the circumference of an hen's egg; the edges were purple not sensitive, the bottom of the abscess was covered with a pale-red, spongy, smooth and glistening fungus growth. There was also copious secretion of thick, yellow pus, stiffness of the neck, violent itching around the abscess. After repeated doses of sulphur the proud flesh disappeared and the abscess healed soon. (Knorre in *Allg. Hom. Zeit.*, vi, 20.

Mrs.—thirty-two years old; poor when a girl, had varicose veins on legs, which broke repeatedly. Several pregnancies had increased the trouble. She has now, and has had for fourteen weeks, a varicose ulcer, which has been treated, unsuccessfully, with applications of cold water. Symptoms: Two ulcers, each about two inches long, on the ankles of the legs. The ulcers are two or three lines deep, secrete much thin, sanious pus; the bottom looks dirty; varicose veins on each leg with most tearing pain in the limbs during the night. Sulphur 100 eased the pain and gave some rest; pricking in the tissue below the ulcer, which discharged and bled freely. During the last few days, cough and pain in the sides. On November 11th she received sulphur 200, one dose every five days. Great improvement, the ulcers are filling up with healthy granulation; increase of pain in the adjoining tissues, especially in the veins. Complete cure at the end of the month. (Rummel in *Allg. Hom. Zeit.*, xxiv., 179.)

Though these cases refer to the healing of ulcers, the question raised was the establishment of free circulation of the veins and capillaries in order to facilitate the cure.

- As general indication of the remedy, Allen writes: "It is very frequently valuable in acute diseases when the carefully selected remedy fails to act on account, probably, of constitutional disease; a few doses of sulphur will temporarily modify the condition so that the indicated remedy can antidote the acute trouble." This use of Sulphur we are bound to say is a

mystification of homœopathy which is based on the clear law of *Similia*. It produces darkness where light is wanted. The assumption is based on conjectures which should be clearly defined so as to reclaim it from confusion. To speak the least of it, it is a *reductio ad absurdum*.

His other indications are : " It is particularly suited to people with light complexions. Frequently indicated for diseases which alternate with some phase of skin trouble, especially when there is a general disagreeable odor of the exhalations of his body, general aggravation from bathing and aversion to it. Suitable for people who have harsh, rough skins, whose hair is coarse, but who are weak and liable to eruptions."

The action on the skin is a remarkable feature of Sulphur. Any disease caused by the suppression of skin diseases is a valuable consideration for the use of sulphur.

Sulphuricum acidum like Sulphur has been used in many cases, especially where the tendency to hæmorrhage exists. It has cured itching over whole body. Its other indications to allay inflammation are : Painful sensibility and swelling of axillary glands ; pains in joints felt during sleep ; wrists and other large joints painful and swollen, but not red ; shocks and blows in bones of hand, when writing ; inner surface of thighs red, sore, excoriated after riding ; tearing in varices of legs ; burning darting pains in muscles ; shocks as from pain ; in a bruise (especially if an old person) when the injured part gets black and blue, and seems as if it would mortify ; hæmorrhages of black blood from all the outlets of the body ; sensation of soreness as if bruised over the whole body ; bad effects from mechanical injuries, as from bruises, falling, knocking, pressure of blunt instruments, and contusions (especially in old women) ; gangrenous tendency after a bruise ; gnawing (eating pain) in the ulcers, inflammation around a sinus ; sloughing ; dark red elevations with matter underneath ; ulcers.

Clarke, writes : " *Trauma* is another indication for *Sul.ac.*, it follows *Arn.* in bruises of soft parts, *Con.* in bruises of glands,

~~Acid~~ in bruises of bones. It also removes long-lasting black and blue spots with soreness and stiffness of the parts."

It has proved useful in pains caused by lifting arms, from falls, in bruises; concussion of the brain; in pains caused by surgical operations, and sprains.

Hempel and Arndt supply the following hints: "Bed sores or flesh wounds which threaten to become ingrenous; they assume a more healthy appearance and are often made to heal under the use of compresses moistened with a solution of this acid."

Again, "Persons who are troubled with a tendency to excoriations from a moderate amount of walking or saddle exercise, are benefitted from its use. In pustules of a dark color, with a tendency to ulceration, in spots and blotches on various parts of the body, with a marked swelling arising from moderate scratching, etc., the acid may give prompt relief. All of these are accompanied by burning itching, gnawing and shooting pains, worse in the open air, in the evening and after drinking coffee."

Symphytum or the Bone-set is a valuable remedy for traumatic injury of the bones. It has the following indications: Pain in back from fall; Pott's disease from fall; psoas abscess; caries of spinal and other bones; loss of power of the large joints; bruises; sprains; sore breasts; inflammation of bones and lessens peculiar pricking pain; favours production of callous; pricking, sticking, jagging pains; applied to bruises and foul ulcers it cleanses and disposes to heal; it removes the inflammation and stops bleeding of piles; inflammation of inferior maxillary bone, hard red swelling.

Clarke cites the following uses of *Symphytum* given by Lippe: "(1) When the bone or periosteum has been injured and the soft parts have recovered from the bruised soreness under *Arn*, the remaining pain and soreness of periosteum may be promptly relieved by *symp*. (2) In traumatic injuries of bone or periosteum (as from a snow ball or anything else on the face), *symp*. was the only remedy Lippe has seen efficient. He cured many cases after others had used *Arn*. and failed. (3) Here is one of

his cases : ' More than a year ago fell and struck knee on a stone ; wound healed and scarcely left any trace, but there remained an acute stitching pain at the point of injury, felt when the part was touched by clothing as when knee was bent.'

H. C. Allen also gives the following cure reported by Fowler : ' Mrs. J. stepped on the edge of a scantling, which rolled, and she turned her ankle. In a few minutes the ankle began to swell and became painful, pain increasing rapidly, so that in an hour or two the patient was in great agony. She declared her leg was broken, she could feel the rough ends of the broken bones jagging into the flesh'; could not bear anyone to approach her for fear of being hurt. No discoloration whatever. *Symp.* promptly relieved, so that she went about her usual duties in forty-eight hours. Allen regards *pricking* pain as a guiding symptom."

The other cases of Clarke are : " More than a year ago struck knee upon a stone, wound healed, and left scarcely any trace, but there remained an acute stitching pain in the place, felt when clothing touched part, or when knee was bent." It was cured by *Symphytum*.

" A man suffering from a spontaneous luxation of the thigh since childhood, fell and received a fracture of the affected thigh ; after two months fragments were quite moveable, and as union was despaired of, an apparatus was made which allowed him to sit on a chair during day ; *Symp.* 4, four globules every six hours, brought about complete union in twenty days."

We remember a case of Dr. M. L. Sircar. He was going with a neighbour of his in a carriage. When passing through a bad road the carriage accidentally fell down on one of its sides. Dr. Sircar was not hurt. But his neighbour had a hurt on the right side of his chest. It was accompanied by stitching pain. *Arnica* could not relieve him. *Symphytum* gave the relief and cured him.

It is now the general practice to use *Symphytum* in pains where bone is suspected to be affected after *Arnica* has failed. We have the occasion to cure many cases of pain in bones from

hurt or lacerated wound after failure of Arnica with or without the pricking or stitching pain.

We are again indebted to Clarke for the following: "Croserio (*New, old, and forgotten Remedies*) was one of the first to use *symp.* in the potencies for fractures. P. P. Wells translated Croserio's *connection of Homœopathy with surgery*, in which this passage occurs: 'Injuries of the bones are healed most promptly with *Symp.* 30, internally, once a day.' Wells gives these cases of his own: (1) Boy 14, broke bone of forearm at junction of middle and lower thirds two years before. Had twice repeated the fracture by slight falls. Ends now slightly movable on each other, arm of little use. Three doses of *Symp.* made a perfect cure, and the boy became robust and much better in health than he had ever been before, (2) Boy 8, fractured humerus near junction of condyles and shaft. *Arn.* 30 immediately arrested the spasmodic jerks of muscles of injured arm. *Arn.* was continued three days, by which time all traumatic fever had subsided. *Symp.* 3, one drop in half a tumbler of water; a teaspoonful morning and evening. The splints were removed the ninth day, and the bone found consolidated. The cure was entirely without pain.

In another kind of injury *Symphytum* is useful. It is in panophthalmitis after mechanical injury. Even injury after operation is remedied by the medicine. The usual rule is to administer *Belladonna* or *Arnica*, on their failure *Sulphur* is used. Failing this *Symphytum* is the next remedy. A poor woman was wounded in the right eye by the horn of a cow. She attended for some time the Ophthalmic Ward of the Calcutta Medical College, but to no decided good effect. At last she resorted to homœopathy. *Bell.* was of little efficacy. *Sulph.* gave decided benefit. The final cure was produced by *Symph.*

Clarke says: "Next to bone injuries in importance are injuries to the ball of the eye, as distinguished from injuries to the soft parts around. 'I have long since ceased to use *Arn.* in injuries of the globe of the eye, *Symp.* having given such prompt and permanent relief' (H.C. Allen).

[I have, however, seen *Arn.* speedily clear up hæmorrhage into the vitreous from a blow of a cork from a soda-water bottle. J. H. Clarke.]

In injury to the spine *Symph.* has produced good result. "On another occasion a blow on the lower part of the back from a fall resulted in a secondary affection of the spine in the mid-dorsal region, a protuberance as from a slight dislocation appearing at the spot. Again *Symph.* was applied. The tenderness at the point subsided after three applications, and in a few days the protuberance disappeared."

Pain in the back from wrestling has been cured by *Symph.*

Syphilinum produces: Heavy aching and stiffness from base of neck up through muscles and cords into brain; caries of cervical spine with great curvature in same region, directly forward; pain in curvature always worse at night (no proof of syphilis); enlargement of cervical glands and a number of pendunculated pin-head warts on neck; enlargement of glands in different parts of body, particularly abundant about neck; indurated and slightly painful glands causing sensation of fullness and suffusion in face, throat and head; enormous swelling of glands of head and neck (Hodgkin's disease); pain at coccyx at its junction with sacrum, sometimes in lower sacral vertebrae, worse on sitting, with a sensation as if swollen, though it is not; caries of dorsal vertebrae with acute curvature every night most intense neuralgic pains; psoas abscess; aching pains in limbs like growing pains; excruciating arthritis, swelling, heat and intense redness; swelling of legs from knees down soles painful when standing on them; swelling goes down in morning, comes back at night, pains in lower extremities, excruciating, completely banish sleep, worse by hot fomentations, better by pouring cold water on them; bubo with pain in thigh which seemed to be on periosteum; large, foul, jagged, sloughing ulcers; necrosis of tibia; pain in groin followed by swollen glands.

Clarke adds these observations: (1) First in importance is the pains from darkness to daylight, begin with twilight and end with daylight. All symptoms are worse at night (2) The ulceration is the next point. It may affect mouth, nose, genitals, or skin, and the ulcers have greyish bases. (3) Abscesses with foul secretions. The pus is foetid. Then there is the succession of abscesses.

(To be continued.)

EDITOR'S NOTES.

Phagocytosis and Opsonins.

The *Medical Times*, September, says :

"This important subject is discussed by Hektoen (*Jour. A.M.A.*, May 12, 06). Phagocytosis of many bacterial and other cells by the leucocytes is dependent on special substances, normal and immune, which become attached to the cells involved and so change them in some manner that they are taken up readily by polynuclear leucocytes in vitro. Wright and Douglas have shown the presence of such substances (which they have called opsonins) in the blood and in other fluids. It has been found that the variable factor is the serum and not the leucocytes. The sera of the higher animals normally contain opsonin for many different bacteria. Normal human serum contains opsonin for staphylo-, strepto-, meningo-, pneumo-, and gonococci; the influenza, diphtheria, anthrax comma and the pest bacilli, and probably many other pathogenic and non-pathogenic bacteria. It is not yet determined whether this wide range of opsonin action is dependent wholly on a common opsonin or on several more or less specific opsonins. It has been shown that the blood of certain animals immunized with blood serum contains a substance which, by acting on blood corpuscles, renders them subject to phagocytosis by leucocytes. Immune opsonins act primarily on the bodies against which the animals have been immunized. Phagocytosis is essentially amoeboid movement, by means of which the object consumed is enveloped. The action of the opsonins consists in so changing bacteria, and other cells, that by chemical, electrical, mechanical means, the latter diminish the surface tension of leucocytes, and thus bring about phagocytosis. Again, specific anti-opsonins are produced under certain circumstances, which may diminish or inhibit normal phagocytosis. The important question lies in the value of the opsonic index in the successful treatment of infections by means of the inoculation of bacterial vaccines. These vaccines should be administered when the opsonin is high and in properly adjusted and interspaced doses—to maintain the anti-bacterial power of the blood at a high level by controlling the effects by means of the opsonin index. Hektoen states as follows the reason why opsonin action of normal and immune is for the present to be regarded as connected with distinct bodies. Normal serum may possess lytic power, but not opsonin, and vice versa; immunization may give rise to opsonic substances, but not to lytic or agglutinating; heat may destroy opsonic power, while the lytic amoebocytes remain intact, and vice versa."

Phagocytosis is the action of the white cells. If opsonin is said to be more in the serum than in the white cells then the power of opsonin becomes questionable. On the other hand, if it be admitted that opsonin resides both in the serum and white cells then fresh research should settle the virtue of the serum. For it is an admitted fact that phagocytosis is an action of the white cells and not of the serum.

Longfellow's Reply to Oslerism.

OLD AGE.

It is too late ! Ah ! nothing is too late
 Till the tired heart shall cease to palpitate.
 Cato learned Greek at eighty ; Sophocles
 Wrote his grand Oedipus, and Simonides
 Bore off the prize or verse from his compeers,
 When each had numbered more than four score years ;
 And Theophrastus at four score and ten
 Had but begun his " Characters of Men."
 Chaucer, at Woodstock with the nightingales,
 At sixty wrote the " Canterbury Tales."
 Goethe, at Weimer, toiling to the last,
 Completed " Faust " when eighty years were past.
 What then ! Shall we sit idly down and say
 The night hath come ; it is no longer day ?
 The night hath not yet come ; we are not quite
 Cut off from labor by the failing light ;
 Something remains for us to do or dare,
 Even the oldest trees some fruit may bear.
 For age is opportunity no less
 Than youth itself, though in another dress ;
 And as the evening twilight fades away
 The sky is filled with stars, invisible by day.

—*Medical Advance*, October 1906.

Hering's Monument.

In the *Medical Advance* of October, the following interesting note appears :

" At the recent meeting of the Pennsylvania State Society, September 6th to 8th, at the suggestion of the president, Dr. Seip, a committee of fifteen was appointed to erect a monument in Philadelphia to the memory of Constantine Hering. This certainly is a step in the right direction, for the Nestor of American Homeopathy deserves a monument for his fidelity to truth and his interest in the cause, if ever a man did. Here, in Chicago, we have a living monument in the college named for him and devoted to the teaching of Homeopathy as Hahnemann and Hering taught and practiced,

Nevertheless it is time that the homeopaths of Pennsylvania should take the advance step and erect an enduring monument in bronze or marble in the city in which his life work was done. We trust to hear of an early report and active steps being taken to carry out the suggestion of the president."

Constantine Hering is revered next to Hahnemann in the homœopathic world. We owe to him the introduction of several homœopathic medicines in our materia medica. Probably the first and foremost of them is Lachesis. For Hering's monument all the homœopathic practitioners of the world should join.

The Destruction of Fleas by Insecticides

(With special reference to checking the ravages of plague.)

Fleas exist in two stages in houses and buildings—as the immature maggot in the dust and dirt on the floor, in cracks and in crevices—as the fully developed blood-sucking insect on the warm-blooded host or in concealment in some part of the building if its host is not available.

Independently of the warm-blooded animal, such as the dog or rat upon which the flea lives and feeds, it may be found as the immature maggot or as the free living flea, the latter only when it has left its host or its host has died. In these cases, the maggot or the flea will be found in the places frequented by the host, living in concealment amid dust and dirt, the flea, though it feeds on blood, can survive long fasts and can wait for long periods in its hiding places until the host is again available. In destroying fleas, it is then necessary to remember these facts, and should the host die, as when the rat does of plague, the fleas will be found living freely and awaiting the appearance of a new host.

Adult fleas are sucking animals and take their food in a liquid form. Poisons, such as arsenic, which act on the stomach are clearly useless against such an insect unless put into the liquid food, which is impossible, and as in the case of all sucking insects, the use of a "contact poison" is necessary, one that will kill the insect on coming in contact with the skin. The flea is covered with "chitin," a hard substance peculiarly resistant to chemicals, and which is not acted upon by any substance generally applicable.

There is but one way in which such an insect, as a flea, can be attacked and that is by using a substance that will affect the breathing-system; this opens at the sides of the body in minute air-holes

and it is known that some substances will kill insects through these openings. These substances are in constant use against certain classes of insects—are known as “Contact Poisons”—and have been employed for many years. For destroying fleas some form of kerosene, of creasote, or of oil and soap, may be used. If pure kerosene is applied to the body of a flea, it will die, as the kerosene acts upon the respiratory system, equally, creasote, which is a crude form of carboic acid or a very strong soap solution will kill the flea, either when it is in the maggot form or in the fully developed blood-sucking form.

There are grave disadvantages attached to the use of kerosene, any form of crude oil, or the pure creasote; they are difficult to apply, very difficult to remove, and as oils will not mix with water. Entomologists have for long used an emulsion of kerosene, made by boiling a soap solution, adding kerosene and churning the mixture in this form, kerosene mixes with water and can be applied in any strength. A ten per cent emulsion of kerosene in water is an extremely cheap and effective insecticide, though scarcely strong enough to kill fleas. “Crude oil,” the heavy oil or the distillate left in the refining of crude petroleum, is a still more effective insecticide but cannot be as easily emulsified as the pure refined kerosene; its value as an insecticide is so great that an artificially prepared emulsion has been manufactured and is sold under the name of “Crude Oil Emulsion.” This emulsion was prepared by the advice of the Imperial Entomologist and is the best available contact insecticide known. It consists of 80 per cent. of crude oil with 20 per cent of whale oil soap, it is a jelly mixing freely with water, and is commonly used at 3 per cent. solution. At ten per cent. it destroys fleas in any form, with perfect certainty.

A room thoroughly washed with such an emulsion is freed from all insect life and the emulsion can be applied with perfect safety, with no risk of fire, with great cheapness, and can afterwards be washed out of the floor with water. Rooms infested with fleas have been thoroughly cleared in this way, provided the mixture penetrated freely into cracks and crevices. An animal washed with the emulsion will be entirely cleared from fleas and the oil is beneficial to the skin and hair. The emulsion has now been in use for three years and has been thoroughly and extremely well tested, with uniformly good results; it is the standard contact poison in use at the Agricultural Research Institute, Pusa, against many crop pests, domestic pests and fleas, ticks, &c, which infest animals.

Another contact poison useful against fleas is creasote. This is commonly sold under the name of "Sanitary Fluid," and is a dark soapy fluid which emulsifies with water owing to the presence of a small quantity of resin soap. Sanitary Fluids of this kind, if properly prepared, are powerful insecticides and a ten per cent. emulsion is as effective as crude oil emulsion.

Of other contact poisons, none are so effective against fleas; soap solution by itself requires to be very strong, and is then expensive; resin soaps and washes are less effective and more costly. Metallic poisons, such as corrosive sublimate, alkalies such as caustic soda and caustic potash, acids, and other strong chemicals have no action on fleas as their chitinous covering is impervious to them and the breathing system is not affected. The use of disinfectants is a waste of time unless they are actually such as exert a specific effect upon fleas.

There are two other methods of destroying fleas. The first is the use of "Insect Powders;" most insect powders have a basis of Pyrethrum Powder with various adulterants in a less or greater proportion; an individual flea dusted thoroughly with such a powder will be rendered helpless and perhaps die, but, even if the pure Pyrethrum Powder be used, few fleas in a building will be reached and the expense will be enormous.

The second method of killing fleas is the use of vapour poisons; these include the vapours of carbon bi-sulphide, of Benzene and of Hydrocyanic Acid. A building that is fumigated thoroughly with carbon bi-sulphide is cleared of all insect life in a more thorough manner than is possible in any other way, this method, however, is not generally practicable and is costly, but where it is necessary to be quite certain that every insect is destroyed, fumigation with carbon bi-sulphide or hydrocyanic acid is the thorough method.

But the absolute destruction of fleas can be generally effected best by thoroughly washing the floors and walls, with a suitable insecticide; the best insecticide for the purpose being Crude Oil Emulsion, at ten per cent. emulsion, in water. This Emulsion has been thoroughly and practically tested during the last three years.

In applying the emulsion a syringe or sprayer is by far the most economical if much work is to be done. For small quantities a good syringe (the "Abol" is the best); for large quantities, a "Success Knapsack Sprayer" should be used, to secure a thorough distribution of the material. If the liquid be applied to the floor and walls in a

spray, it will penetrate further, be more effective and very much cheaper than if simply thrown on.

Three pints of the Crude Oil Emulsion are used in one kerosine tin (4 galls.) of water, or for one charge of the Knapsack Sprayer. The Crude Oil Emulsion readily mixes with water when stirred up in it and the mixed fluid can be sprayed on to all parts of an infected building very rapidly. If a Success Knapsack Sprayer is to be used the jelly is placed on the strainer and water from the machine pumped on to it, when the emulsion is quickly formed and properly mixed in the sprayer.

Crude Oil Emulsion, Sanitary Fluid, the Abol Syringe and the Knapsack Sprayer can all be obtained in India.

The price of Crude Oil Emulsion is Rs. 9-8 per drum of 5 gallons, making fifty gallons of the Insecticide, this is far less than the price of any other insecticide, excepting Sanitary Fluid which costs about Rs. 12 per drum of 5 gallons.

The Abol Syringe or any other syringe costs about Rs. 9 and a Success Knapsack Sprayer is obtainable for Rs. 46.

Descriptive leaflets of the Knapsack Sprayer and Crude Oil Emulsion can be obtained from the Imperial Entomologist who will give any further information required.

AGRICULTURAL RESEARCH }
Institute, Pusa, Bengal, }
August, 1906 }

H. MAXWELL-LEFROY,
M.A., F.F.S., F.Z.S.,
Imperial Entomologist.

[Death has been pronounced on rats by the so-called scientific experts. It is true that there are rats and fleas. But it has not been proved that either rats or their fleas spread plague to man. If the sanitary authorities use their valuable time to teach people sanitation by distributing pamphlets in vernacular languages, we think that would create far better results than wasting money by killing rats and their fleas. We wish that a sanitary association should be established in Calcutta under the presidency of the Sanitary Commissioner, and there the necessary methods to introduce sanitary measures can be discussed and adopted. The crusade against rats, fleas and many other lower animals and insects may possibly prove ineffective. We would point out to the sanitary authorities,

"Life is real, life is earnest,

But it might be more sublime,

If a man were not kept busy,

Dodging microbes all the time."]

CLINICAL RECORD.

Foreign

A CASE OF MERCURIAL DEAFNESS.

By H. C. ALLEN, M D, CHICAGO

The chief object in reporting this case is to illustrate the necessity of constant care and the utmost vigilance on the part of the physician in the examination of the patient, and in the construction of the anamnesis, on the correctness and completeness of which the selection of the remedy depends. Just here is the weak point in the armor of so many homeopathic physicians. Sufficient care is not taken in the examination and the large majority, I regret to say, overlook the first and essential duty of the homeopathic physician, the making of a written record.

Under §83 Hahnemann says :

"The individualizing examination of a case of disease demands of the physician nothing but freedom from prejudice and sound sense, attention in observing and fidelity in tracing the picture of the disease."

How few of us ever approach a case free from prejudice. Unless we do it is absolutely impossible to arrive at correct conclusions.

And again, in §104, Hahnemann says

"When the totality of the symptoms that especially mark and distinguish a case of disease, or in other words, when the picture of the disease, whatever be its kind, is once actually sketched, the most difficult part of the task is accomplished. The physician has then the picture of the disease, especially if it be a chronic one, always before him in his treatment. He can investigate it in all its parts, and select the characteristic symptoms and compare them with the symptom list of the remedy."

"When the case is properly taken under the rules laid down by Hahnemann," Dunham says, "that any one can prescribe, for every one can select a remedy." And he might have added, unless the case be properly taken, no one, no matter how expert in *Materia Medica* or what his knowledge of symptomatology may be, can make a correct selection. The anamnesis should include both objective and subjective phenomena, and it is to the former of these on which we wish to lay special stress in this case.

Hahnemann in §4 says :

"He is likewise a preserver of health if he knows the things that derange health and cause disease, and how to remove them from persons in health."

CASE —Mr. J. G. K., aged 26, brown hair, blue eyes, fair complexion, weight about 140. He is a salesman in a large wall paper house, the foreman of which—a patient of mine—referred him to me for his deafness, for which he had been under the care of three noted specialists for some years. He could hear a watch tick but one inch from the left, and an inch and a half from the right ear. He was discharged on account of his deafness.

In examining his throat I found the soft palate and pillars of the fauces reddened and edematous, and the uvula more than twice its normal size.

On examination of his mouth I detected seventeen large mercurial amalgam fillings in his teeth.

The tongue was broad, flabby and showed imprint of the teeth throughout the entire border.

He had suffered for years with ptyalism, saliva running out of the mouth and wetting the pillow in sleep. I sent him to a dentist to have the amalgam fillings removed and, until the teeth regained a portion of their normal strength, to be replaced with cement.

From the symptoms elicited, the condition of the tongue the throat, palate, uvula and the profuse saliva, I gave him *Mercurius dulcis* several doses in various potencies for the next few weeks, and in less than three months the deafness was completely cured and he returned to his former occupation.

This case is only one among a large number that could be enumerated where the principal factor in the cure was the removal of the cause, and I report it to this society especially to call their attention to a thorough examination of the mouth in cases of deafness.

INSOMNIA FROM MERCURY?

CASE:—Mr. J. G., aged 35, a tall, fair complexioned, muscular man, weighing 156, has been suffering five years from insomnia and for the last year with a troublesome vertigo. He first thought it was induced by long hours in his occupation, which required attention 16 or 18 hours a day. But, after changing or curtailing the time, and doing no night work, the vertigo still continued. The uvula, soft palate and entire throat were red, congested, edematous, and a profuse saliva called my attention on an examination of the mouth to the mercurial fillings of his teeth.

Vertigo when sitting or turning the head suddenly ; as if in a swing ; after stooping when raising the head ; everything turns black with momentary loss of vision ; unsteady in walking with constant fear of falling ; has several large amalgam fillings in his teeth. Further questioning elicited the fact that the insomnia and vertigo began co-incidentally with the filling of the teeth.

The amalgams were removed and in three weeks the vertigo and insomnia disappeared and he considers himself well. *Mercurius dulcis* was his remedy.

CHRONIC BILIOUS ATTACKS FROM MERCURY ?

CASE :—A J. C., aged 50, dentist, brown hair, fair skin, hazel eyes, weight 165 ; extremely susceptible to weather changes for years. Mother had bilious attacks for years, and died aged 80.

Heart intermits every third or fifth beat.

Megrim, preceded by blurred vision.

Bilious attack preceded by drowsiness ; knows one his coming because he is sleepy ; a large flabby tongue with imprints of teeth on border.

Backache on rising.

Nausea for many days every five or six weeks following bilious attacks.

Had typhoid fever in 1895 and has never felt well since.

Although a dentist he had thirteen large mercurial fillings in his teeth, which were removed, and under *Mercurius dulcis*, followed by *Psorinum*, chronic attacks of biliousness that had lasted for years were entirely removed.—*Medical Advance*, October, 1906.

EXPERIENCES WITH UNIT DOSES—
PÆONIA.

By DR. M. LE H. COOPER.

A Gentleman, aged 55, short in stature, thick-set, and of medium complexion, consulted me on the 30th of March, 1904, and gave me the following history. He enjoyed his usual moderately good health up to New Year's Day, when he had an attack of diarrhoea with dysenteric symptoms, a fair quantity of blood and mucus being in evidence. The acute symptoms lasted five days, but since that time he had continued to pass blood, about a teaspoonful, and a certain amount of slime with every motion, and at the same time he had been steadily losing flesh. His local allopathic physician failed to relieve the condition, and a consultation was consequently held by three medical men. He was informed by them that he had a growth affecting the upper rectum of a malignant nature, and that immediate operation was imperative. As he did not relish the idea of this he came to me, on the advice of a friend. By questioning him I extracted the following information. All his life he had been accustomed to pass a small quantity of blood with the motions, and this he regarded as a normal condition with him, as it had in no way affected his general health or sense of well-being. He had at times had a slight tendency to piles, but these were quite insignificant, and gave no trouble. At the age of five he suffered from inflammation of the bowels, and since then had been liable to intestinal disturbances—e.g., the slightest indiscretion or excess in diet would occasion diarrhoea, which was almost invariably associated with pain in the lower abdomen of a colicky nature. All fish acted as rank poison to him, causing vomiting, this idiosyncrasy being shared by his sister.

Present Symptoms.—Defecation is accompanied by slight straining, but no pain, and the bowels are opened three or four times a day. Blood is passed with every motion; it comes in drops, amounting in all to about 3j, and clots are also passed with the motions. There is a constant desire to defecate, and he always suffers from a great deal of flatus. Recently the pain has been located in left flank below the ribs, though during the acute attack it extended to

the left iliac region and lower abdomen. No vomiting. Is losing weight.

On Examination.—Though the abdomen was fat it was sufficiently flaccid to allow of being fairly deeply depressed by the examining fingers, but I could detect no resistance or tenderness, and certainly there was no tactile sensation suggesting the presence of a tumour. Per rectum, a somewhat enlarged prostate was the only abnormality present, if abnormality it could be called in a man of this age. My diagnosis was to the effect that the evidence was not sufficient to warrant the assumption of the presence of a tumour, and that most certainly it in no way justified laparotomy being performed.

The patient was immensely relieved in his mind by this verdict, but though this mental effect may have helped the treatment, I do not think that the staunchest of unbelievers in the efficacy of the unit dose would say that the whole of the benefit I am about to chronicle could be put to this count.

To continue with the diagnosis. It was obvious, in the first instance, that the intestinal mucous tract had been for years in an abnormally sensitive condition, following on the early attack of enteritis, and it was quite feasible to suppose that the last attack, being of greater severity than usual, had left a more persistent inflammatory state in its trail. In fact, I regarded the case as simply one of ulcerative colitis, the wasting not having been so excessive but that it might be accounted as due to such a condition, quite apart from any suggestion of malignancy.

The entire absence of collateral symptoms rendered it difficult to fix with any certainty on any particular remedy, but I thought that none would be so likely to meet the condition as *Paeonia officinalis*, of which I accordingly gave an arborvital dose.

April 13, 1904 (i.e., a fortnight later).—*Feeling every much better in himself.*

On the 6th and 10th passed a little blood, but only in spots. The motion is often stained with blood, but less so than before. *Appetite is better. All the motions have been solid, and no slime whatsoever has been seen.* Has not lost weight in the last fortnight, it being maintained at 11 st. 5 lbs. *Is much better able to do his work. The urging to defecate is much less, and his sleep is much better.* He,

however, feels the pain over the left loin every day, and it occasionally catches him suddenly. This is, however, by no means severe, and he says that he has already begun to feel a different man. Repeat *Pæonia* off. ϕA .

April 27th.—Is steadily gaining. Up to the last two days the bowels have acted only once a day. They acted twice to-day and once yesterday. He feels he can do his work ever so much better; he can now work from 9 a.m. to 9 p.m. His sleep, which he described as formerly miserably restless, is now quite undisturbed. Weight is maintained, and all pains have now completely gone. On the night of the 19th he had slight sensations suggesting diarrhoea, but these passed off. Has only once had anything approaching diarrhoea since the first dose. The motions are natural in appearance, and only faintly streaked, and there has been no more dropping of blood (in fact, the condition so far as the motions were concerned had now returned to what might be taken as his normal condition, seeing that they had been like this all his life). Repeat *Pæonia* off. ϕA .

May 11th.—Report equally good. He states that some acne spots which had been present on his face prior to coming under me completely went after commencing treatment. Of late, traces of blood passed had been dry and dark, he never having remembered it like this before. Up to four days ago the bowels had acted once a day, but since then twice daily. A hot, burning sensation had been felt at times in the rectum, but no pain. He expressed himself as having done "very stiff work," and having passed "lovely nights." Repeat *Pæonia* ϕA .

May 25th.—Is very well in himself, but the motions have been more loose and the bowels have acted twice a day. He has also felt slight diarrhetic pains occasionally, but has suffered no other abdominal discomfort. Is able to do his work very well. He, however, still has the occasional hot, burning sensations in the rectum. This latter symptom, together with the continued appearance of blood, led me to give *Æsculus* *hip* ϕA .

June 15th.—Has only seen blood three times in the last three weeks. Is now gaining in weight. Is well in every way, but the motions continue semi-solid. *Pæonia tennifolia* ϕA .

July 6th.—On June 22nd (i.e., seven days after the dose) he passed two lumps of mucus and blood, each as large as a bean, and

a little blood was seen on the 24th and 25th. No blood, however, has been seen for the last ten days. He says he feels in splendid general health. Repeat *Pæonia ten.* ϕA .

July 27th.—Has been better the last three weeks than he has been at all; and except for a trace of blood on the 31d none has been seen. The motions were quite formed for a fortnight after the dose, but last week were not quite so solid. He works from 6.30 a.m. to 8 p.m. without fatigue, and his weight has increased 3 lbs. Repeat *Pæon. ten.* ϕA .

August 24th.—Traces of blood have only been seen on two occasions, but he is troubled with a great deal of flatus, causing tremendous rumbling in the stomach in the morning. *Ornith. um.* ϕA .

August 31st.—No blood has been seen since the dose, and the general health is maintained.

I now kept the patient in view every two months, and on the 29th of December gave a dose of *Lapsana com.* ϕA . On the 22nd of February his weight had reached 12 st. 5 lbs—i.e., a gain of 12 lbs. since coming under treatment. His last visit was paid on the 19th of April, two months after the last dose of *Pæonia off.* ϕA , when he stated that he felt better than he had done for years, that the former liability to intestinal trouble from which he had suffered for fifty years had completely left him, and that though at rare intervals a little streaking of the motions occurred, he considered himself in perfect health and profoundly thankful that he had not submitted himself to operation. He seemed also immensely pleased that his chest measurement had markedly increased.

Remarks.—So far as I am aware, no record exists of *Pæonia tennifolia* having been used in medicine, but from the above case it is fairly evident that so far as its intestinal sphere is concerned, it acts similarly to the *officinalis*, and that it follows well on the latter. I was induced to make a tincture of it because I was struck by the remarkable similarity in the appearance of its leaves to those of the *Pulsatilla*, and I thought it more than likely that these two plants, belonging to the same order, might have many features in common in their medicinal action. This, however, I have not so far put to the test. An interesting point brought out by the above case is that the wave of remedial reaction started by

each of the earlier doses of *Pæonia off.* apparently lasted about ten days, this being sufficiently obvious without any elusive laboratory hunt after obscure opsonic indices.—*The Homœopathic World*, Sept. 1, 1906.

ANACARDIUM ORIENTALE.

Case. Man æt 60, lively temperament, mentally very active, complained of a sticking, crampy gastric pain, only ameliorated by repose and by eating, reappearing 2 hours after meals. There was furthermore obstinate constipation and sensation of a plug in the rectum. Anacardium 6th and 12th caused marked aggravation; the 16th, removed the syndrome overnight and the trouble never reappeared.

CASE: Employe, æt. 39, whose occupation caused him to run up and down stairs all day, complained of the gastric pain and cramp, also of pressure, burning, sticking and formication between the scapulæ up to the 7th cervical vertebra. Anacardium 6 removed the whole trouble in two days, without an aggravation.

Pathogeny gives the following characteristic symptoms of anacardium:

Great general weariness, weakness with inclination for sitting and lying. Periodic appearance of the complaints, intermitting hours or days. Trembling on every motion or exertion, particularly weakness of the knees. Dermally, irritation and itching worse from scratching; further, redness, swelling, blebs, even pustules with the sensation of moisture in the affected part. It acts upon the vascular system and causes redness of the face, feeling of heat in face and head, with great unrest; congestions to the head with excitement, anxiety, accelerated respiration, sweat and thirst; the whole body is hot and bathed in sweat, with chilly sensations. Palpitation, cardiac stitches, pressure as from a plug in the right chest. (These complaints are common at the climax.)

To the central nervous system it is excitant, causing great unrest, late falling to sleep, insomnia. Great anxiety and care for the future; enhanced memory and mental activity, particularly in the afternoon; inclination to curse and swear; the patient thinks himself under the influence of two contradictory wills. Excited phantasy, hears voices in the distance, has vivid dreams, at night of fire, corpses, etc. Secondly and chiefly, anacardium is depressant and causes drowsiness, weariness during the day, stupor, loss of

courage, depression, anthropophobia, irritability, hypochondriasis, indifference. no joy or pleasure in work. Psychic disturbances appear: Laughter at serious things, seriousness over laughable matters; believes that body and spirit are separated; thinks himself possessed by the devil; inclination to suicide by shooting. "The head is heavy and dull, dull pressure as from a plug; the head feels bound as by a cord.

In the digestive tract, hunger predominates—bulimia, pyrosis, bitter taste, ptialism. Pressure on the stomach, with distension, weakness. Empty feeling in the stomach. Eructation without relief; nausea, especially in the morning; gastric cramp; cutting and sticking pain in the epigastrium toward the spine; dull hepatic pressure. The complaints are relieved by eating, but return in about 2 hours. Constipation, with sensation of plug in the rectum; frequent, often vain, desire for stool; intestinal paralysis.

Between scapulæ, a contractive pressure; sticking, burning, tension. Stiff neck; sensation of plug in the spinal column, sinking deeper by motion.

Amelioration: During and after eating; in repose; afternoon and evenings (as in all nervous troubles).

Aggravation: From physical and especially mental exertion; from meditation; early on walking.

The remedy is apparently full of contradictions; it causes insomnia and drowsiness; excitement and depression, etc. This is explained by the fact that the pathogeny is made up partly of primary effects which are excitant; partly of secondary effects where depression is prominent. The chief action of anacardium is neural upon the central system and upon the sympathetic (particularly the solar plexus). It is one of the few remedies that may be given with certainty in solar plexus complaints, and its gastric and scapular troubles emanate from this plexus and not from the spinal axis.

There is no drug which so often produces a primary aggravation. In low potency, 3rd to 5th, one may certainly expect, if the remedy be indicated, an aggravation, and the patient should be correspondingly warned. Even the 6th will aggravate and the 8th is more commonly prescribed. The rapid action of the drug is notable; two or three doses usually suffice, and its curative period of action is prolonged, Hahnemann giving it as thirty days. Dr. Stauffer.—*The North American Journal of Homeopathy*, September, 1906.

Gleanings from Contemporary Literature.

SNAKE VENOMS: SHOWING HOW RECENT DISCOVERIES WITH REGARD TO THEM EMPHASIZE THE PARAL- LELISM BETWEEN THEIR PATHOLOGICAL AND THERAPEUTIC ACTION.

By T. G. STONHAM, M.D., London

You are all so well acquainted with the therapeutic use of the various snake poisons, and are so constantly employing them in practice, that I feel the greatest diffidence in addressing the Society on such a well-worn subject. And indeed, from the standpoint of simple homœopathic prescribing, I should not venture to do so. The symptomatology is abundant, the leading indications are clear, and the whole pathogenesis so striking as to be easily remembered. The symptom list of *Lachesis* by Hering, the introducer of snake venom into homœopathic use, and the splendid monograph on *Crotalus* by Hayward, cover the ground with regard to those two poisons so completely that I do not think anything has been discovered since to add to them, and I am not aware of any new provings having been made of *Naja* and the other less frequently used snake poisons. So that from the homœopathic side I have no new matter to bring forward.

It is curious that while the allopaths have been so busy in appropriating many of our drugs they have left this, one of the greatest, in our undisturbed possession. No doubt the obstacle has been the infinitesimal dose; but there are signs that their prejudices with regard to minute doses is giving way, and I do not think it will be long before we read in the daily press, or elsewhere, of an astonishing discovery made by some brilliant member of the orthodox school, of the wonderful medicinal qualities of snake poison. This is the more likely to happen as the physiological chemists and bacteriologists have lately been paying a good deal of attention to the subject in connection with researches on immunizing bodies and antitoxins, and as they have brought to light some facts bearing on the pathological action and constitution of the venom, it may be worth while spending the few minutes devoted to the reading of this paper in considering them.

The snake secretes its venom by means of two glands, answering in position and structure to the parotid glands, and which lie one on each side of the head behind the orbit. They are compressed by the masseter muscles, which compression aids in the ejaculation of the poison. From the front portion of the gland the poison duct passes forwards, runs along the lower margin of the orbit, and opens on the top of a small papilla which is situated at the base of the fang on the anterior wall of a sheath of mucous membrane which closely embraces the fang. The fang itself is a tooth which has undergone a special development, the dentine having sent up lateral plates which, curving towards one another, have united

to form a canal down which flows the poison as it leaves the poison duct. The canal stops a little short of the end of the fang. The fang is firmly and immovably fixed to the jaw bone, but is yet very movable, the bone and fang being moved together by various muscles so that the fang either lies quiescent along the roof of the mouth, or is erected when the animal is about to strike.

A medium sized cobra will yield from its poison glands from 150 to 200 mgms. of dried poison, and this quantity, viz., 200 mgms., is sufficient to kill 5000 rats. The reaction of the venom is acid to litmus. Fresh made venom (of all kinds of snakes) is a fluid varying in colour from the palest amber tint to a deep yellow. When desiccated it dries into a cracked mass separating into solid yellow particles, very fragile, bright yellow, transparent or translucent, and seemingly indestructible by time. It can be kept permanently either desiccated or dissolved in glycerin or alcohol. The poison is a very stable substance. Weir-Mitchell says of the poison of the rattlesnake: "Freezing has no effect; boiling has no effect; strong nitric acid, strong muriatic acid, strong sulphuric acid—each of these strong acids, after mixing with venom and acting upon it for twelve minutes, was neutralized by liquor potassæ—each mixture when injected into the subcutaneous tissue produced death. When mixed with ammonia, chlorine water, iodine, soda, potash, and each mixture injected, no effect was found to have been produced on its virulence." With regard to heat, however, Lamb, in 1903, in an article in the *Glasgow Medical Journal*, says that heat does affect venom when it is in solution, and in the following way:—

1. Some of the proteids become coagulated.
2. The toxic power of the proteids which are not coagulated is impaired.

Not only are snake venoms very stable substances; they are also very composite ones. They are almost pure solutions of proteids, with a trace of inorganic salts, and each venom may contain several different proteids, and different snakes have these proteids mixed in different proportions.

These various proteids represent several independent toxic principles, viz., neurotoxins, those acting especially on the nerves and nervous centres; cytotoxins, those causing necrosis of the ordinary tissue cells; hæmolysins, hæmagglutinins, hæmorrhagins, and thrombokinase, acting in the various ways denoted by their names on the blood and blood vessels; and precipitin.

Weir-Mitchell and Reichert long ago recognized that there were at least two different active substances in venom, and they distinguished these as peptones and globulins. They found that the peptones cause rapid putrefactive changes locally, but no extravasation, while globulins cause hæmorrhages and destroy the natural ability of the blood to clot. They say that, in proportion as the peptones predominate will we have less marked local lesions, while in proportion as the globulins predominate there will be œdema, extravasation of blood and discoloration of the parts. They fur-

ther found that solutions of the globulins had their toxic effects destroyed by heating to 75°C., while those of the peptones were much more resistant. These experiments gave a broad basis for the distinction between the symptoms of the cobra (*Naja tripudians*) and the rattlesnake (*Crotalus*). The symptoms of cobra poison are mainly felt in the nervous system, due to the presence in that poison of a large proportion of the neurotoxic principle, which resists heat. An animal bitten by a cobra, after a short time becomes lethargic; the hind legs become paralyzed, and paralysis spreads forward to the fore legs; the animal lies down completely paralyzed. Finally respiratory paralysis occurs, there is a slight convulsive movement, and death. There is no failure of the heart or diminution in the strength of the pulse, and the heart may go on beating for twenty to thirty minutes after breathing has completely stopped. Cobra poison also has a destructive effect on the red blood corpuscles, and diminishes the coagulability of the blood plasma, but to an extent slight when compared with the poison of the daboia or Russell's viper, an Indian snake corresponding to the American crotalus in the character of its venom. The symptoms of poisoning by daboia are primarily on the blood. There is no paralysis of limbs, and the respiration seems affected only secondarily to blood and heart changes. On the other hand, these changes are marked; there may be syncope from depressed heart, and the arterial tension is always much lowered. If the stage of syncope is survived, hæmorrhages and œdemas occur, the blood loses its coagulability, the red corpuscles are destroyed, and there is destructive action on the capillary walls, allowing extensive extravasations of blood and blood-stained plasma, and not only at the site of bite, but in any part of the body, especially from mucous and serous surfaces. Bacterial infection is apt to set in in the œdematous and blood-stained parts and cause general septicemia or malignant œdema.

The rattlesnake bite causes similar hæmorrhagic symptoms to the daboia but even more pronounced. The daboia poison has, however, one mark of distinction from the crotalus, in the quantity of its agglutinating principle. When the poison is injected in considerable doses it causes death rapidly—in from ten to fifteen minutes—by producing a universal intravascular thrombosis, which causes death by asphyxia accompanied by convulsions.

It would seem that the clotting principle thrombokinase, when it is present in sufficient quantity, acts and causes the thrombosis before the hæmolytic toxins have had power to destroy the corpuscles, but that with less doses of the poison this does not occur, and the blood is soon broken down by the hæmolysins into a fluid noncoagulable condition.

The poisons that act most powerfully on the blood have the greatest effect on the blood-pressure, thus crotalus and allied snake poisons, when injected subcutaneously, caused a progressive fall of blood-pressure, while with cobra poison there was a tendency to a rise of pressure after the initial fall which may go above the normal as death approaches, owing to the asphyxia, which is then the cause of death.

The respiration in snake poisoning is always depressed—in cobra poisoning by a direct action on the respiratory centres, in crotalus and daboia poisoning secondarily to the vascular and cardiac changes.

Further experiments regarding the toxic principles of snake venoms have been recently made by Dr. Hidayo Noguchi, assistant at the Rockefeller Institute of New York, and published in this year's March number of the *Journal of Experimental Science* issued by that Institution.

He finds that if the variation in resistance of the toxic principles of snake venom to moist heat is taken in order, the order will be as follows : Neurotoxin resists brief boiling ; haemolysin is destroyed at 135° C. ; haemagglutinin at 75°—80° C. ; haemorrhagin, cytolsin, and thrombokinase at 75° C. ; and precipitin at 96°—100° C. He remarks that since the venoms of different species and orders of snakes vary according to the prevalence of one or the other class of toxic constituents, the ease with which they succumb to heating depends on the nature of the predominant principles. Hence, rattlesnake in which haemorrhagin and possibly other, locally-acting non-heat-resisting poisons are predominant, and daboia venom in which much thrombokinase is contained, are easily diminished in activity by heating to 75° C., at which temperature cobra venom suffers little change in toxicity.

More interesting than these experiments on the influence of heat on venoms, which were largely anticipated years ago by Weir-Mitchell and Reichert, are those he made on the influence of fluorescent bodies. It has been found that if unicellular organisms—bacterial and other toxins—are mixed or suspended in a solution of some substance which in solution exhibits the phenomenon called fluorescence, and if these solutions are then exposed to the influence of sunlight, the organisms are destroyed. Sunlight is essential to the action of the solution. Thus a solution of muriate of acridin (a fluorescent substance) of the strength of 1-20,000 has no effect on protozoa in the dark, but destroys them in sixty minutes in diffused sunlight, and in six minutes in direct sunlight. Again, sunlight which has already passed through a fluorescent solution is robbed of its power to set up fluorescence in a second solution. No intensification of toxic action is produced in the second solution by the filtered light. Fluorescent light itself is without toxic action on infusoria ; to obtain a toxic effect the living organisms must be immersed in the fluorescent fluid.

All fluorescent substances would seem to be able to exert photodynamic action ; but there is much variation in the intensity of action among the different fluorescent bodies themselves and a further variation according to the substances—living cells, ferments, toxins—upon which the action is exerted. The relation of degree of fluorescence and intensity of photodynamic action is a reverse one ; as a rule, the weaker solutions of the fluorescent body are the more active.

Hidayo Noguchi made experiments to find out what would be the relative influence of fluorescent bodies on the different snake venoms.

The fluorescent dyes used were eosin and erythrosin, and the snake venoms those of cobra, daboia, and crotalus. The dyes were used in a 0·25 per cent solution, the daboia venom in 0·1 per cent, and the cobra and crotalus venom in 0·4 per cent. Four parts of venom solution were mixed with one part of dye solution, hence the dye was present in the solution in the proportion of 0·05 per cent. The mixtures were divided into two parts, and one part kept in the dark, and one in the light, for thirty hours.

The venoms mixed with dye kept in the dark were all unaffected. From those kept in the light the following results were obtained :—

The haemolytic power of both crotalus and daboia venom was reduced, that of cobra venom not appreciably.

The toxic power of both crotalus and daboia venom was reduced *passu* with that of its haemolytic power, that of cobra venom scarcely at all.

In crotalus venom haemorrhagin and haemolysin predominate, and neurotoxin is in but small quantity ; it is the former principles that are destroyed by the photodynamic action of eosin in sunlight, which acts quite rapidly, and the toxicity of the venom is quickly reduced.

Daboia venom is rich in haemolytic and cytolytic principles, but its chief peculiarity of action results from the thrombokinase which it contains. The experiments show that the clotting principle—thrombokinase—is completely destroyed by the fluorescent dyes (eosin and erythrosin) in sunlight, and the general toxicity is considerably reduced.

Venom neurotoxins are highly resistant to photodynamic action ; hence cobra venom, in which they largely predominate, remained almost unaltered and had its toxicity but little impaired. We thus see that the action of fluorescent bodies in sunlight differentiates between the different toxic bodies in snake venom very much in the same way as heat does.

Lichtwitz found that it is the complements (of Ehrlich's side-chain theory) but not the haemolytic immune bodies or amboceptors of normal and immune serums that are destroyed by eosin in the light.* This would be excepted, for it is the complements and not the amboceptors that are destroyed by heating the sera above 75°C.* While the amboceptors are indispensable the complements are the activating bodies.

You will notice that I have said nothing about the venom of Lachesis, the great South American snake that Constantine Hering introduced to the profession, that furnished the first snake poison ever used in medicine for the cure of disease, and that has ever since retained the first place amongst the snake poisons in therapeutic practice. I have said nothing, because I have not been able to find any account of any experiments on the venom of this snake. Most of the experiments have been made on the colubrine and viper snakes of India, represented by the cobra and daboia, and on the North American family of the crotalidæ, besides a few on the Australian snakes. The reason, doubtless, is that these have been the most readily procurable, and that the experiments have been carried on mainly in India, and in England and the United States, which have free com-

munication with that country. But I think we are justified in concluding that lachesis venom must be almost, if not quite, as rich in neurotoxins as naja, and has a great many more of the haemolytic and haemorrhagic toxins than that venom, approaching crotalus in this respect. We may conclude this from the symptoms it presents both in its poisonings and its provings. It is more generally useful than either of the others, covering as it does the ground occupied by both, and it is, moreover, the poison which has been best proved in the homeopathic school, and the indications for which have been the best worked out. That this is so is another proof, if any were needed, that good provings on the human subject according to Hahnemann's rules are more valuable for therapeutic purposes than any number of physiological experiments. If I had anything new in regard to the therapeutics of snake poisons to bring before you, I should not now be dealing with the matter from the physiological and pathological standpoint, but would spend the time in a more practically profitable manner. But the therapeutic ground, so far at any rate as lachesis and crotalus are concerned, has been worked so efficiently by Hering and Hayward that there seems little left to discover. In the meantime it is interesting to watch pathology slowly advancing towards the position long occupied by therapeutics confident as we may be that each advance will only the more surely establish our therapeutic law of *Similia similibus*.

One of these advances has lately been made with regard to the action of the neurotoxins of snake venom. The symptoms of poisonings and provings have always made it certain that the venom had a profound influence on the nervous system, especially of that of the central nervous system, and above all of the medulla and upper cord. But there was no gross pathology to show this; no microscopical changes had been shown in the nerve centres, and there were those who maintained that all the nervous symptoms were but secondary to changes in the blood, and not due to any direct action of the poison on the nerves. No one who had carefully studied the provings of lachesis with high dilutions could fail to believe that the nerve cells were directly affected, but pathological proof was wanting. But an article appeared in the *Lancet*, on January 2, 1904, in which Dr. George Lamb, of the Indian Medical Service, and Dr. Walter K. Hunter, Lecturer on Materia Medica at the University of Glasgow, published an account of some experiments made on animals with cobra poison. The object of the experiments was to show what influence of a direct nature the snake poisons have on the nervous system, and to decide whether the cause of death in poisonous cases is due to the action of the venom on the blood as maintained by Cunningham, or whether it results from a primary action of the poison on the central nervous system.

As hitherto no pathological changes had been found to be present in the nervous system, they decided to endeavour to ascertain whether such changes would not be evident in a fresh series of experiments, if a more modern and perfect method of histological examination were adopted. Six monkeys and three rats were used for the experiments, and were killed by

subcutaneous injections of cobra venom in doses ranging from 0.5 mgm. to 10 mgms. per kilogram of body weight of the monkeys, and from 0.05 to 0.25 mgm. per kilogram of body weight of the rats. Microscopical sections were made of various parts of the brain, medulla, and cord.

The result was to show that in those of the monkeys in which death did not take place till after two hours (the time required for changes to take place) distinct evidence of degeneration of nerve cells was found in cord, medulla, cerebellum, and cortex. The same degenerative changes were found in all the rats. The degeneration was found to affect the cells of the anterior horns in both the cervical and lumbar enlargements of the cord; in the pons and medulla, the 12th, motor 10, and 7th nuclei all contained a considerable proportion of abnormal cells, the pyramidal cells of the cortex showed commencing degeneration; and in the cerebellum not one normal Purkinje cell could be found. The Nissl chromatic bodies of ganglion cells were destroyed. The cells of the posterior horns in the cord were affected to a less extent; and lastly, nerve fibres in the cord as well as in the peripheral nerves were found to some extent degenerated. The vessels to these parts were considerably dilated, and in the cord some small hemorrhages into the grey matter were seen. "Thus" they conclude, "we see that in cobra poisoning we have a toxic substance which, when injected subcutaneously, produces symptoms of muscle paralysis, and that when we examine the nervous mechanism which controls these peripheral muscles there is found to be evidence of such degenerative changes as are known to be so frequently associated with paralysis. It seems fairly certain, therefore, that cobra venom has a direct action on the motor neurons..... We cannot but conclude that it has a specifically selective action on the nervous system, and that it is from this that death results." So we see that symptoms derived from the provings of the snake poisons, and of the high dilutions of those poisons, are shown by the latest and most modern microscopical methods to have a pathological basis.

It has long been remarked that though snake poison has such a powerful toxic effect when injected under the skin, it has but a very feebly and uncertain effect when taken by the mouth. This is not because of any action produced on it by the gastric juice, for it has been shown that the gastric juice has no power to diminish the toxicity of venom. The stomach walls must therefore, be incapable of absorbing it. If however, some venom be injected into an isolated loop of the small intestine, it is readily absorbed and produces the usual poisonous symptoms. Something, then, must happen to render the venom innocuous in its passage from the stomach to the small intestine. It has been found that the bile has some share in rendering the venom harmless, but that the chief agent in so doing is the trypsin of the pancreatic juice. It is probable, however, that a certain small quantity of the venom gets into the system unchanged, for an animal which has been fed with the poison succumbs more readily and for smaller doses to subcutaneous injections of snake poison than one that has not been so fed.

If, however, the feeding with the venom occurs at sufficient intervals and is not in too great amount, the effect is in the direction of immunization. Similarly, if sublethal doses of venom are administered subcutaneously, and if sufficient time is allowed to elapse between the injections, the animal acquires a protection against the influence of the venom ; but if the doses are given at too short intervals death will result from what otherwise would have been a sublethal dose. This is parallel to Professor Wright's discoveries with regard to the opsonic index of the blood in injections of tuberculin at too frequent intervals diminishing the opsonic power, while if the intervals are sufficiently prolonged the opsonic value is increased.

Here again modern discoveries confirm the observations of homœopaths made long ago, that too frequent repetition of the dose might destroy the power for good of the similarly acting remedy.

Snake-charmers sometimes acquire immunity to the effects of bites by their practice of rubbing the venom into the palms of their hands ; enough is absorbed through the skin to induce immunity. It is probable also that the mongoose owes its large share of immunity against snake venom to its habit of devouring the head of its victims as soon as the victory has been won. As a proof of this it was found that the descendants of a species of mongoose that had been imported to Mauritius, where there are no snakes, had, after some generations, almost entirely lost their immunity.

Though it is possible, by gradual and repeated inoculations extending over some time, to render a person more or less immune to snake venom, it is of more practical importance to discover some antidote which will be efficacious at the time when a person has been bitten. It was hoped that some advance in this direction would result from the discovery that precipitins could be formed in the serum of animals which would precipitate venom. Lamb found in 1902 that the serum of rabbits which had undergone a process of immunization to cobra venom was a powerful precipitant of the poison, and not only of the cobra venom, but also that of the *Daboia Russellii*. In a further paper Lamb related that he had prepared an anti-serum for the serum of the cobra, which precipitated not only cobra serum, but also cobra venom. It was hoped, therefore, that these sera, when injected, might act as antitoxins in the same way that the antidiphtheritic sera do. But it was found by Hunter, from experiments made as Carnegie Research Fellow in the Physiological Laboratory of Edinburgh University, that there is no connection at all between antitoxic and precipitating power on the one side, or toxicity and precipitability on the other, in the case of snake venom. He concludes : "The proteids of snake venom form a complex mixture ; some of its constituents are coagulable by heat, some are not ; and while it is certain that all coagulable proteids can form precipitins, it is not yet proved that any incoagulable ones can do so. The balance of probability appears to be in favour of the view that venom precipitins must be largely, if not entirely, antibodies

related merely to the coagulable portion of the venom, a portion which forms a very small percentage of the toxic contents; on the other hand, the greater part of the antitoxin will find its affinity amongst the incoagulables. Consequently the precipitin producing substances are not the toxins, or only a small part of the toxins, and the precipitins produced by them and the sera containing those precipitins have no antitoxic properties. So they are not available as remedies in cases of snake bite."

The nearest approach to the production of a successful antidote has been made by Dr. A. Calmette. He found that immunity against a dose of venom usually lethal to fresh animals can be obtained in the following manner. If we inoculate under the skin of a rabbit 2 mgms. of cobra poison, a dose capable of killing the rabbit in less than two hours, and if twenty minutes afterwards we inject chloride of lime diluted to $\frac{1}{10}$ around the poison wound, and also in various other parts of the body, the rabbit thus treated resists the attack of the poison after a transient illness. The animal is ill and falls away at once, and continues to do so during the following six or eight days, but after that its health is completely re-established. If then, after a fortnight's rest $\frac{1}{2}$ mgm. of the venom is injected, it does not succumb. The previous injections of venom and chloride of lime have vaccinated this rabbit against the dose of $\frac{1}{2}$ mgm., which kills within eight to twelve hours all the other unvaccinated rabbits used as a control.

But it was further found that chloride of lime, without any admixture with venom and without venom being separately injected, if introduced by inoculation in small quantities for four or five consecutive days under the skin of rabbits produces the refractory state. The animals thus treated can after six days resist a mortal dose. And also the serum of animals which have received immunity by either of the preceding methods possesses similar properties to those which Behring, Kitazato, Rose, and Wallard have established for the serum of animals against the poisons of tetanus and diphtheria, i.e., an antitoxic serum to snake poison is produced. Calmette's antivenomous serum is obtained by immunizing horses by the foregoing methods, and using their serum. From 20 to 40 cc. of serum should be injected as soon as possible after the patient has been bitten. The claims that Calmette makes for this serum have been substantiated in practice in the case of cobra bites, but it has not been found so successful for poisoning by other snakes. Calmette also recommends the direct injection of a chloride of lime solution, either supplementary to his serum or when it is not obtainable. He prescribes a dose of 20 to 30 cc. of a 1 in 120 solution of chloride of lime in water, for a man poisoned by a snake bite.

The interesting fact about these experiments of Calmette, for us as homeopaths is that injections of an inorganic substance like chloride of lime can produce an immune serum. That gradual and repeated injections of an animal poison will cause the production of antibodies in the serum of the animal injected, seems to be a well-established law for all kinds of

proteid substances; that the injection of inorganic salts should also cause their production in certain instances is of great significance, showing as it does that simple chemical salts can produce results in the body similar to those produced by the most complex protoplasmic substances. If chloride of lime can cause the body cells to form antibodies to snake poison, other drugs can doubtless cause them to form antibodies to other poisons: cyanide of mercury, for instance, may cause the formation of substances antidotal to the diphtheria poison, and we have in this way an explanation of drug action in disease, an explanation which, I believe, was first definitely formulated by Dr. Johnston in his paper to the Congress two years ago at Oxford.

The net result of all these recent researches into the constitution and action of snake venoms has been to establish more firmly on the pathological side the homœopathic relationship of these substances to the diseased conditions in which they have been found curative by our school. We have long known that *crotalus* was our best remedy for septic wounds and for hæmorrhages accompanied by disorganization of the blood and destruction of the blood corpuscles. We have recently learnt that of all the snake poisons it is the most opulent in cytotoxins and hæmolysins which rapidly produce the septic or gangrenous condition of the tissues and the degraded hæmorrhages which resemble the septic wounds, and foul ulcerations; the putrid blood-mixed discharges, and the pourings forth of broken-down blood from any or all of the mucous surfaces, which, whatever the name of the disease in which these symptoms occur, are always successfully met by the administration of *crotalus*.

In these conditions we have not been accustomed to prescribe *naja*, because the provings we possessed of *naja*, and the cases of poisonings by bites of that serpent, exhibited those symptoms of sepsis and hæmorrhage in a much less marked degree than either *crotalus* or *lachesis*. We now know that this is accounted for by the cytotoxins and hæmolysins being present in but slight degree in the *naja* poison. But we know, on the other hand, that the neurotoxins are in great abundance, and that our selection of *naja* amongst the snake poisons to combat affections of the nervous system, especially those involving the centres of respiration, the cardiac and vasomotor centres, and the nervous supply of the throat and neck, is justified by their close homœopathic relationship.

I will quote a case recorded by Dr. F. E. Williams, of Haddonfield, New Jersey, in the *Hahnemannian Monthly* for April, 1902, which will afford a good illustration of an affection of these centres cured by *naja*. Dr. Williams writes "In December, 1890, the patient passed through a severe attack of la grippe, followed by bronchitis, and two weeks afterwards by pneumonia, from which she made a good recovery. The patient was a lady of nerve-sanguineous temperament, delicate & of her life, 39 years of age, and the mother of six children. Two months after the attack of pneumonia, on March 29th, I was hurriedly summoned to see her,

and was informed by the husband she had been taken a week previous with attacks of suffocation, coming on suddenly, lasting a second or two and passing off as suddenly as they appeared. She had been having five or six of these attacks in the twenty-four hours, occurring frequently at night while lying quietly in bed. Between these spells she had attended to her domestic affairs as usual, and the family were not much alarmed until the day previous to my visit, when she had twelve attacks of a more severe nature, lasting much longer, and followed by great prostration and irritability, sleepy and stupid, with a desire to be alone. In three days another paroxysm occurred, and thereafter on an average every two or three days. By the middle of April the paroxysms were growing less severe and longer intervals, when the disease took a sudden turn, and the attacks followed one another more closely than ever before, leaving her so prostrated that by the last day of this month she was confined to her bed and unable to raise herself without assistance; so great was the prostration that the prognosis became unfavourable. A few days after I succeeded in finding the patient in one of the paroxysms, having previously been obliged to depend for guiding symptoms entirely upon the observation of the attendant, and the memory of the patient, which was much impaired. The paroxysm consisted of the following symptoms: Suddenly, without warning, respiration ceased; as she expressed it, 'everything seemed to stop'; she would clutch her hands or grasp any near object, head thrown slightly back, muscles of neck rigid, eyes wide open and pupils dilated, mouth half open and rigid; muscles of back rigid, occasionally opisthotonos but not always; limbs stiff, though movable, and cold, deglutition impossible, and complete aphonia. Percussion of the chest produced a clear resonant sound, and auscultation revealed no respiratory murmur, the chest was well filled with air. The heart sounds and impulse were normal, though slower than usual. Pulse full, regular, and slow, averaging 65 to the minute. She did not lose consciousness, but could not speak or motion to her attendants. These paroxysms would last from two to eight or ten minutes, and suddenly be relieved by a violent and successful effort to restore respiration, when she would sink back utterly exhausted, with increased pulse, sometimes palpitation for a short time, slight headache, and fullness in the head. Between these attacks she was exceedingly weak, suffering with pains in the limbs, and difficulty in moving them; the appetite was fairly good, bowels regular, and the menstrual period normal and regular during her entire illness. Any nervous shock, excitement, or worry would aggravate her troubles. The remedies principally relied on before I saw her in a paroxysm were bell, zinc. met., hyos., sepia, and agarcus. With these I was enabled only to relieve the severity of the attacks and to lengthen the time between them. After making a careful examination while she was in a paroxysm I decided that naja was the remedy, and gave the 3x. in water, a teaspoonful every three hours. Improvement began immediately, and continued until she was entirely free from the paroxysms.

No doubt everyone here could quote many similar cases which would illustrate the curative value of the neurotoxins of naja and of lachesis.

But, after all, the isolation of these different toxins in the physiological laboratory, though it may satisfy our craving for a pathological basis for our prescribing, and assist in a scientific demonstration of the law of similars, gives us but little assistance in the practical work of prescribing. We learn from this modern laboratory work no indications for differentiating the various uses of these venoms which we did not know before from the provings. In fact it does not carry us so far as the provings ; it gives us the gross indications for the venoms, but does not follow them to their finer shades of action. It has no information to give us, for instance, concerning the mental effects of the poisons. It cannot differentiate between the low muttering delirium, talking to himself, with drowsiness, of crotalus, the rapid excited talking of lachesis, and the suicidal insanity of naja. We should never have learnt from it such a valuable guiding symptom common to all the snake poisons as "symptoms worse on walking from sleep," "sleeps into an aggravation." We should never know from it that crotalus, bothrops, and elaps affect mainly the right side, and lachesis and naja the left, that with naja there is aphasia from paresis of the organs of speech, with bothrops aphasia from loss of memory, and with elaps the patient can speak, but cannot understand speech. For all these and a hundred other important symptoms—important for the treatment of disease—we have to go to the provings.

The truth is that the method adopted by Hahnemann for the elucidation of drug action—the proving of drugs in the healthy human body—is the most really scientific. The work is done with a finer instrument than those used in the laboratory. The human body is a more delicate reagent than any chemical test, and the conscious human mind gathers information which no microscope can reveal.

It is right, that we should reject no knowledge from any quarter, and should keep ourselves informed of all the latest discoveries made in physiological chemistry and in other departments of modern science, but we must not forget that we, the homœopathic body, inherit the best method ever employed for the discovery of the therapeutic value of drugs, and that in the division of labour, which must occur in medicine as in all other pursuits, our peculiar province should be to perfect and extend our provings. We may be assured that if we do so we shall always be in the van of progress in the knowledge of the therapeutic use of medicines, and that any future discoveries made in the laboratory will but supplement and confirm truths which we shall already possess.—
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USE OF SECRET MEDICINES.

The use of secret medicine in any shape can not be defended. The opprobrium attached to such practice creates a moral degradation. In the neolithic age, the use of secret medicine imposed a mysterious veneration. In the paleolithic time, that regard began to lessen. The gradual diminution is so inappreciable, that in the twentieth century, with all the rapid advancement of science, the secret medicine holds its ground sufficiently well. The curiosity is that human progress is not all sided. There is darkness beneath the bright, effulgent lamp. The old schools of medicine reprimanded the improper use, still there are hosts among their votaries who cannot abjure the immoral gain even at the stake of their professional reputation. We do not take into consideration the unqualified practitioners, who have reason to uphold all bad practices. The wonder is that those who are expected to enhance the status of the profession by moral qualification become extremely immoral. The old methods of medical practice by moral injunction could not do away with the use of secret or patent medicines. The forcible obligation advised by *Charaka Samhita* to keep up the purity of the medical profession is conspicuous.

ভিষক্ ছন্ন প্রবিশ্যৈব ব্যাধিতাং স্তপ্যন্তি যে ।
 বিতং সমিব সংপ্রিত্য বনে শাকুন্তিকোদ্রিজান ॥
 অত দৃষ্টে ক্রিয়াকাল যাত্নাস্থান বহিষ্ঠতাঃ ।
 বর্জ্যনীয়া হিতে মৃত্যোশ্চরন্ত্যনুচরা ভুবি ॥
 রুতি হেতোর্ভিমান পূর্ণান্ মুখং বিশাবদান্ ।
 বর্জয়েদাতুরো বিদ্বান্ সর্পান্তে পাতমাকৃতাঃ ।

সূত্র স্থানম্ ২০ অধ্যায়, ১১-১২ ।

ব্যাধেরা যেরূপ পক্ষীদিগকে ফাঁদে ফেলিয়া থাকে, সেইরূপ বাহারা বৈদ্যবেশ ধারণ করিয়া রোগীদিগকে বশীভূত করিয়া থাকে, সেই শাস্ত্র-জ্ঞানহীন বহুদর্শনহীন ও কালযাত্নাদেশ জ্ঞানহীন বৈদ্যগণ পরিত্যজ্য । উহারা মৃত্যুর অনুচররূপ পৃথিবীতে বিচরণ করে ।

বাহারা সামান্য জীবিকার জন্ত বৈদ্যাভিমানী, সেই মুখ পণ্ডিতদিগকে বিদ্বান রোগী পরিত্যাগ করিবেন । কারণ উহারা বায়ুভোজী সর্পের ন্যায় গণনীয় ।

As professional Hunters capture the birds on entering in a wood, so the pretended physicians do their patients. These persons without knowledge of the medical shastras, wisdom, time, dose and place should be avoided as adherent of death. For the sake of gain these men, with show of knowledge in medicine, ignorant but pretending wisdom, are to be avoided by intelligent patients as they are serpents feeding on wind.

The new school of homœopathy which began life as protest to the irregular practices did not conceive that some of its qualified followers would degrade themselves by following the ignominious ways. The scandalous gain having entered into the sanctified domain of homœopathy is creating incalculable mischief. Homœopathy which ordains no secret does not indulge in cowardly behaviour. It has the moral force to bear the searching light and rigid scrutiny of the law of *Similia Similibus Curantur*. In these days of Mammon worship nefarious ways in trade reject the sanctity of moral and material sublimity. Money and gain by any means are now the earnest endeavours in the two hemispheres. The old Asia though decrepit has veneration for morality. The domination of the west upon the

east has brought unhallowed atmosphere. We do not object to money and gain by legitimate means. The subserviency of goodness and efficiency to the master spirit of Mammon is destructive to the adhesive bond of real material progress.

It has come to our knowledge that homœopathic prescriptions of a new type are being dispensed. A pills and B pills have taken the place of my mixture No. 1 and 2. The plain fact is that A and B pills can only be dispensed by homœopathic pharmacists, who are tutored to observe the secret of these medicines. These secret pills are manufactured by qualified practitioners who have intimate connection with dispensaries. The double degradation is that the practising physicians not only demean themselves to the rank of apothecaries but they also have not the courage to take field in open competition and rise by the force of merit. The melancholy meanness creates our utmost aversion. We never expected that qualified followers of Hahnemann can behave in such a pitiable manner.

The novel prescriptions do not exhaust the resources of gain. We hear with amazement of a curious name—Perfection food. What kind of food has been perfected remains to be known. Perhaps, the secrecy of perfection has come to the only intelligent manufacturer. Like *Christian Science*, it is a means to a valuable end.

We are aware of Benger's food, Mellin's food, etc. Perfection food may take away the gain from either Benger or Mellin, for it is perfect. Can we not question in what way it is perfect? Is it a perfect curer of diseases or has it the opposite perfection as destroyer of health. The manufacturer and those who use the food are also perfect beings, for perfection can only be understood by them. We, imperfect creatures, can not measure the height of that perfection conveyed by the Perfection food. The best thing that we can advise those who use the Perfection food is to cease from using that invaluable remedy, lest they lose the sympathy of all imperfect beings of his family. It would be well for them to leave its consumption to their wise adviser, who will be gratified to find himself perfect by its use.

The immoral gain by the use of secret medicines has been facilitated on account of the bulk of homœopathic practitioners either being proprietors or having shares in a dispensary. In these days of keen competition, every discreditable means is availed of to keep the medical practitioners afloat. The outcome is that the qualified practitioners degrade themselves by taking the rank of apothecaries. It would be graceful to leave the business of druggists to unqualified practitioners of homœopathy. There is no law in India to restrict the sale of medicines to qualified homœopathic pharmacists. The curious sight is that the qualified and unqualified come to the same degraded level.

In Calcutta there are a few respectable homœopathic druggists. The oldest and most respectable shops are maintained by unqualified practitioners. A few new trading concerns are owned or managed by qualified men, and consequently the shopkeepers are jealous of one another. On the other hand most of the qualified depend for their earning on calls from the unqualified men. For this reason the unqualified are humbugged and derive the nominal status of seeing themselves almost equal to the qualified. But the trade jealousy gives an under current enmity. A minority of qualified practitioners who have no trading concern do not join with them in their mutual congratulating society. The necessary consequence is that those who want to keep the regular status of homœopathy are separating themselves to keep up their own respect. Young men just out of their colleges find it hopeful to join with the majority. On the whole the result is the professional degradation.

It can not be denied that homœopathy is progressively making new attacks on the domain of orthodox medicines. The gain is not due to the professional status but it is more to the inherent good qualities of homœopathy. This extension comes not from the effort of the majority, but the failure of the old schools helps them in their onward march.

Coming to the business of secret prescriptions, we think it is our duty to notice another kind of immoral gain. A patient

seeks the help of a qualified homœopathic practitioner in his dispensary. He pays the fee for the medical advice. The prescription remains secret between the physician and his compounder. The reasonable inference is that when the patient has paid the price of the medical advice, it is his right to have the prescription. The physician is not justified to withhold ~~it~~ to derive the benefit of dispensing. This is not only an immoral but also an illegal gain. We wish that the question be decided in a court of law.

These irregularities can not but be unpleasant to those who want to preserve the respectability of homœopathy. The apparent safety from opprobrium is that almost all practitioners of medicine either of the new or old schools transact the business of druggist. Kabirajes, Yunani practitioners, the men of the dominant school as well those of the new, mostly resort to trade. There are a few who have not joined them. This immoral trade having been occupied by the powerful majority leaves little room for denunciation by others. Such is the condition of medical practice in India. There should be a medical registration act for them all. Attempt had been made before for this end, but the diversity of affairs frustrated all effort. It seems that the business of physician in India, is destined to be degraded.

TREATMENT OF NEPHRITIS.

By Dr. Sauer, of Breslau.

Apis Mellifica.—The venom of bee in toxic doses does not produce appreciable change in renal tissues. The repeated trial of this substance has produced the following characteristic symptoms: fatigue of the brain producing sleep; unconsciousness; pale skin with isolated but transparent red spots; oedema of the eyelids and scrotum; softness and painfulness of all the muscles especially of the nape of the neck; tongue red, dry, without thirst; anxiety; urine scanty, high coloured, containing albumen, blood and tube casts; pulse full, strong, or scarcely perceptible. This medicine is employed especially for the acute

nephritis or in the acute exacerbation of the chronic parenchymatous nephritis.

Argentum Nitricum.—Chronic poisoning with the toxic substance has produced degeneration of the kidneys observed in autopsy. The trial has produced: dull pain along the canal, dark coloured urine containing blood and cylindrical tube casts with burning during emission. It is employed in homœopathy in the acute and chronic parenchymatous nephritis.

Arsenic.—The acute and chronic poisoning discloses fatty degeneration of the renal parenchyma. The provings have produced: pale cadaveric colour; great agitation with fear of death; intense thirst, the patient drinks often and little at a time; gastralgia; vomiting; moderate diarrhœa; urine scanty, high coloured containing albumen, and cylindrical casts, dyspnœa in lying position, increasing toward midnight and diminishing by the expulsion of a small mucus. Useful in the advanced stage of the acute nephritis and especially in the chronic parenchymatous variety.

Aurum.—The dissection of subjects poisoned with gold reveals vascular plethora of the kidneys. The trial of the medicine produces at first augmentation, afterwards diminution in the quantity of urine. It is employed in the interstitial nephritis, especially with cardiac complication.

Cannabis Indica.—The intoxication causes cerebral irritation with delirium and consecutive depression. Provings have produced: illusion of time and space; sharp pain with sensation as if the skull will open and close. It is an intercalary medicine in dræmia.

Cantharis.—Small doses produce actual plethora and at length proliferation of the conjunctival tissue. In large doses it produces degeneration of the parenchyma. The urine greatly diminishes containing especially blood, albumen and cylindrical casts. The trial of the medicine has produced: lancinating pain in the region of the kidney; it spreads in the bladder and the canal; the tissues in the passage of the kidney are very sensitive; the

urinary ténesmus is very great and the urine only comes out drop by drop. It is employed especially in the acute nephritis.

Colchicum.—The autopsy of poisoned animals has caused the acute parenchymatous nephritis. In man only a slight lesion has been found, though it is not renal plethora. The experiments produced: urine scanty, high coloured, bloody, ~~Albuminous~~ albuminous; oedema of the extremities; great sensibility to touch and strong odours; urine may be increased. Many stools with ténesmus, profuse salivation or diarrhoea with colic. It is used in the chronic interstitial nephritis, especially in patients with acid urine.

Kali Chloricum and *Bichromicum* have been used by Windelband and others with success. *Kali Chloricum* operates powerfully in the kidneys.

Kali Iodum is used in the fatty degeneration of the kidney and in the glomerular nephritis; it is also used in the chronic interstitial nephritis caused by mercury or syphilis, when the symptoms agree with the *kali salt*.

Lachesis.—Bloody urine with cylindrical casts as in chronic parenchymatous nephritis with the respiratory symptoms and aggravation after sleep.

Mercury.—Large doses produce the chronic parenchymatous nephritis. The urine is scanty coming drop by drop with great pain; the intestine is torpid or gives the stools red colour; pain in the back with shivering and cold sweat; profuse salivation with thirst. It is useful in acute nephritis especially post diphtheritic, the puerperal and chronic interstitial nephritis of drunkards.

Phosphorus.—It produces fatty degeneration and contraction of the kidney. The trial has given: inability to lie down on the left side and back; vomiting produced by the absorption of cold water; diarrhoea with tendency to hæmorrhage. The urine is covered with fatty deposit. It is employed in the chronic interstitial alcoholic nephritis or accompanied by complications of the heart and lungs.

Plumbum.—The prolonged use in small doses produces contraction of the kidney. The experiments produced: moral depression with gradual feebleness, rapidly growing thinness; extraordinary paleness of the skin; cutaneous anæsthesia; amaurosis by atrophy of the optic nerve; obstinate constipation with colic; little or no oedema; tendency to uræmic convulsions. Interstitial nephritis.

Terebinthina.—In small doses it has produced urine, in large doses it causes inflammation and hæmaturia, albuminuria, and also anuria. Fever, burning pain in the region of the kidney increasing to sharp piercing pain with strangury. It is useful in the acute nephritis due to cold and chronic parenchymatous nephritis with exacerbation.

Passing to the particular treatment of the three forms of nephritis, in the acute stage the principal remedies especially after scarlatina are *Apis* 3 or *Apisinine* 5; they are to be administered having the symptoms of probable nephritis; they almost always avert the disease. *Argentum Nitricum* 4 when there is great pain in the renal region, radiating to the bladder, aggravated by all kinds of movement and accompanied by dyspnœa. *Kali Bichromicum* and *Chloricum* have been employed with success. Symptoms of poisoning with *Kali Chloricum* present important actions upon the kidneys.

If the acute nephritis come from humidity, *Aconite* 4 and *Mercurius Corrosivus* 6 are used when the stools are frothy and sanguinolent. The anuria, strangury and great sensibility in the region of the kidney appeal to *Cantharis* 6 and also *Terebinth.* 4, when there are odour of violets and prostration of strength and spirit. In *Terebinth.* the pain diminishes by movement, where as *Canth.* increases it, and the patient becomes very irritable. If notwithstanding these medicines uræmia ensue *Ars.* 6 may be useful. The patient presents somnolence with exaggerated beatings of the heart. Bronchial catarrh demands *Phosphorus* 6; *Solidago*, *Blatta*, or *Hellebore* may also be given.

In dropsy *Digitalis* acts as *Apis* but without the agitation, and with slow pulse. If uræmia reappear *Glonoin* 6 and *Nitrum*

2 may be given. *Hepar sulph.* 4 favours the reabsorption of the exudation, either serous, fibrous or membranous.

During convalescence the writer prefers *Chin Ars.* 6, *Calcareo Phos.* 4, *Calcareo Ars.* 4, *Natrum Sulph.* 8, and *Ars. Iod.* 8, following the general conditions which are presented in the constitution of the patient. When there is great ~~excitability~~ with insomnia *Avena Sativa* Q should be given.

The writer has combated persistent ascites by capillary drainage tube under the skin, which eliminates the urinary poison with the liquid. It has been found a good auxiliary in the medical treatment, and it also brings on sweat.

For intervention in chronic nephritis there is justification for the prolonged and alternate use of *Hepar Sulph.* 4, *Ars. Iod.* 8, and *Calcareo Ars.* 4. When the acute stage has been disregarded, the chronic period is happily modified by *Arsenic.* and especially *Ars. Iod.* As intercalary medicine *Iryo.* 3 is given when there is stasis in the portal vein causing retention under the stomach, with abdominal plethora, deep deposit in the urine, and marked aggravation towards 4 p.m.; for this reason *Nux Vomica* is used in constipation when the totality of symptoms corresponds. *Helonias Dioica* is often successfully used as well as *Phosphorus* which resembles it for many symptoms.

The writer has treated the chronic interstitial nephritis, following the two preceding states, when any complication does not interrupt the progress. Here nothing can particularly influence the choice of the remedies. From the beginning, he administers *Plumbum Acet.* 8 and *Ars. Iod.* 8 for two or three weeks. After two months, *Nitrum* 2 is prescribed twice daily for a month, to return to the other two. This could give the patient a year of respite.

The excessive sanguinary pressure can be moderated by *Plumbum Acet.* alternated once every day by *Glohoir* 6 with rapid success. The abuse of mercury or old syphilis calls for *Kali Iod.* The chronic abuse of alcohol demands the use of *Phosphorus* 2 alternated by *Sulphuric Acid* 6.

The cardiac insufficiency manifested by the engorgement of capillary circulation and the diminution of urine, are often the effect of the chronic interstitial nephritis at the advanced period and can, by time, be benefited by homœopathic treatment. It has three periods :

1. The troubles preventing the compensation and dropsy can still be removed, and general amelioration is prolonged for some months.

2. Temporary relief can be given and œdema often comes back.

3. Dyspnœa, oliguria and dropsy being persistent, the fatal issue is inevitable.

In the first period the writer has given *Phosphorus* 6 combined with *Adonis* 1, or *Crategus* 1, alternately with *Apis* 3 as intercalary, with the necessary rest. If an irritant cough prevent rest intermediate doses of *Drosera* 3, *Kali carb.* 4 or *Conium* 3 may be administered. The treatment can be readopted for a month, and then *Stibium Ars.* 8 may be added.

In the second period *Crategus* 1 and mother tincture and *Apocynum* may be administered for the œdema ; or better *Lachesis* and *Arsenic* in large doses. If the œdema persist, infusion of *Digitalis* may be given. Its effect can be helped by *Strophanthus* 1, *Scilla* 2, *Crategus* 2 and *Apocynum* 2. When the short respite which has been obtained by this practice ceases, the writer practises capillary drainage, sometimes prolonged to once in half a year.

In the angina of the chest and cardiac asthma, *Arsenic* in large doses, *Glonoin*, *Argentum Nit.*, *Naja*, *Lachesis*, *Spigelia* and *Veratrum* follow the circumstance coming into action. When they have ceased to operate, an injection of Morphine may be performed. In case of uræmic delirium the writer has derived marked result. When it comes before the chronic interstitial nephritis having organised *Nitrum* 2, *Glonoin* and *Plumbum Acet.* 8 have produced extraordinary effects.

The writer constantly examines in all cases of the chronic nephritis, the presence of tube casts and albumen not for the

difficulty to cure but try to preserve the parts of the kidney, even to make good, remove the pains which remain in the kidney and avoid the fatal issue.—*Allg. Homœop. Zeitung.*

SPRAINS AND THEIR EFFECT.

Sprain is a common accident of life. A new view as to its pathological nature has been taken by Sir William Bennett. The general definition of sprain is "a wrench or strain resulting in stretching or laceration of the soft parts without external wound." Sir William holds that it stands sound with regard to academic disquisition, but the inward pathological change as disclosed by x ray reveals a greater disorganisation than the definition conveys. A good many of them contain fractures. He classifies sprains as follows:—

1. Simple sprains involving the soft parts only.
2. Sprains with fracture, in which fracture being slight, symptoms of sprain predominate.
3. Sprains with gross nerve injury. To determine fracture and nerve injury, every case of sprain especially those involving joints should be examined by x ray, if available. The first consideration with regard to our definite knowledge is, whether fracture exists. The existence of crepitus or its contrary does not prove either the presence or the absence of fracture. He says, "I have seen several cases of injury near joints in which fracture has been either diagnosed or strongly suspected on the strength of crepitus resulting from osteoarthritis in the adjacent articulation."

As to the nerve lesion, there may be pain at the seat of injury or it is referred to a distant part. He writes: "In all cases of strain, especially of the knee, elbow and shoulder regions, the distal parts should be examined for numbness, a much commoner condition than it is usually supposed to be, and one which is frequently, when it does exist at first unnoticed by the patient. This numbness, which may be exceedingly limited in area, if due merely to nerve shock disappears in a few hours; if, however, it persists for more than twelve hours, a gross lesion of the nerve branch concerned is pretty certain."

TREATMENT.

Sprains without Swelling.

These were formerly called "strains." The intense pain which generally exists should be relieved by rest with firm compression. The firm compression should be of the right kind. Strapping is generally recommended. Rest for six or seven days is necessary "as secondary swelling is apt to follow its use if employed too soon."

Sprains with Immediate swelling (from blood).

1. Arrest of bleeding can be performed by rest. The application of ice in many cases has proved injurious. In albuminuria or any kind of kidney disease continued application of ice has produced extensive sloughing. Fomentation, the hotter the best, has generally comforted the patient. Pressure upon the swelling is injurious.

2. *Promotion of absorption of extravasated material* is resorted to after the immediate swelling has ceased. Porous bandages as Crêpe or Velpeau etc. followed by massage are necessary.

3. *Prevention of adhesion and muscle waste* can be done by voluntary movements, massage, and passive movements. Generally speaking splints are not necessary. Massage may be used as the requirement needs. "Passive movements should follow freely as soon as all heat has left the damaged part, whether the swelling be tense or not; and if the tension be rapidly diminishing gentle passive movement may be used in spite of slight local increase of heat; but if the increase of the heat, which under these circumstances is sure to follow, does not subside within an hour or two, passive movement may be deferred for a time, although voluntary movement may be continued.

4. *Reappearance of swelling without heat* points to constitutional or local disorder. In cases of gout, syphilis, etc., they may be best taken care of by medicines.

5. In *hamatoma* operation procedure is not so much necessary as medicines,

6. *Tension in joints after sprains* want the aid of medicines. Rest, hot fomentation are additional comforts.

7. *Sprains with fracture* are mostly amenable to medicine, with the help of splints and bandage. Simple sprains should have (a) voluntary movement, (b) massage, (c) passive movement and exercises. Sprains with fracture demand massage, ~~passive~~ movement, voluntary movement and exercises. "The reason for the early use of passive rather than voluntary movements being obviously that the detached piece of bone is not disturbed during the use of passive movement if properly carried out; whereas, if voluntary movement were allowed, imperfect or faulty union would not improbably follow, with the usual imperfect recovery.

8. *Sprain-fractures in joints* are those in which the cartilage is in part torn from the articular surface, the bone being involved in the lesion. They require treatment as in simple sprains.

9. *Sprains with gross nerve injury* want particular care and selection of remedy. Nerve lesion points to pain along the line of distribution of the nerve. It wants complete rest. Massage generally brings on mischief. In neglected cases after becoming chronic, massage and static electricity may prove beneficial. When numbness, showing a different kind of nerve-lesion, has not disappeared in twenty-four hours massage wants to be supplemented by galvanism.

As remote consequences of sprain, Sir William Bennett classifies the two results thus: Preventible includes persistent pain, stiff joints, wasting of muscles (apart from gross nerve lesion), general relaxation of joints and deformity. Unavoidable in certain cases comprehends oteo-arthritis, local paresis, and myositis ossificans.

In conclusion, we may remark that these complaints are generally and particularly amenable to carefully selected homœopathic remedies before they can assume the unpleasant aspect.

The remedies for sprain are administered without any great pathological consideration. The general method is to give

Arnica for any kind of sprain. Taking into consideration the changes just mentioned the remedies should be as follows :

1. Sprains without swelling—*Arnica*. On failure of it *Aconite*, *Bell.*, *Rhus Tox.*, *Rhus Ven.*, or *Ruta*.

2. Sprain with immediate swelling from blood. The hæmorrhage can be arrested by *Arnica*, *Hamamelis*, *Aconite*, *Belladonna*, or *Calendula*.

3. Promotion of absorption of extravasated blood—*Aconite*, *Arnica*, *Calendula*, *Belladonna*, *Hamamelis*, *Rhus Tox.*, *Rhus Ven.*, *Ruta*, *Sulphur*.

4. Prevention of adhesion and muscle waste.—*Hepar Sulph.*, *Rhus Tox.*, *Rhus Ven.*, *Ruta*, *Calcarea Carb.*, *Calcarea Phos.*, *Bryonia*, *Pulsatilla*, *Ammonium Mur.*, *Lycopodium*, *Nux Vomica*, and *Sulphur*.

5. Reappearance of swelling without heat.—*Hepar Sulph.*, *Rhus Tox.*, *Rhus Ven.*, *Ruta*, *Bryonia*, *Lycopodium*, *Pulsatilla*, *Nux Vomica* and *Sulphur*.

6. In hæmatoma.—*Hamamelis*, *Calendula*, *Lachesis*, *Nux Vomica*, *Phosphorus* and *Sulphur*.

7. Tension in joints after sprains.—*Rhus Tox.*, *Rhus Ven.*, *Ruta*, *Calendula*, *Nux Vomica*, *Pulsatilla*, and *Sulphur*.

8. Sprains with fracture.—*Arnica*, *Symphytum*, *Silicea*, *Calcarea Carb.*, *Calcarea Phos.*, *Sulphur*, *Rhus Tox.*, *Rhus Ven.*, and *Ruta*.

9. Sprain—fractures in joints.—The medicines for fracture.

10. Sprains with gross nerve injury.—*Aconite*, *Arnica*, *Belladonna*, *Bryonia*, *Calendula*, *Coffea*, *Dulcamara*, *Ignatia*, *Lachesis*, *Ledum*, *Nux Vomica*, *Pulsatilla*, *Rhus Tox.*, *Rhus Ven.*, *Ruta*, *Symphytum*, *Sulphur*.

EDITOR'S NOTES.

A New Anticompulsory Vaccination Movement.

The *Medical Advance* for October, writes :

"It was inaugurated by a public meeting in Philadelphia, held at Wither-spoon Hall, May 6th. An invitation had been sent, to Dr. Dixon, State Commissioner of Health, to take an hour of the allotted time in defense of vaccination, but he curtly replied, "that vaccination was a settled question, and that he did not discuss medical questions with laymen." Mr. John Pitcairn acted as chairman, and after a short address introduced the speaker of the evening, Mr. Porter F. Cope who, for over two hours, held the attention of his audience, many of whom were prominent physicians, lawyers, politicians and educators of the city. Dr. Joseph MacFarland of the Medico-Chirurgical College, undertook to reply to the arguments presented by Mr. Cope. He was followed by C. Oscar Beasley Esq., against vaccination and a plea in its favor was made by a gentleman holding a fellowship of the University of Pennsylvania. The anti-vaccinationists' evidently had the best of the argument, for before the meeting adjourned, a set of resolutions proposed by Prof. Enoch S. Price of Bryn Athyn, Pa., strongly condemning vaccination and its enforcement by law, were passed without a dissenting vote.

It may be of interest to the medical profession to learn that Jenner purchased his degree of M. D. for £15 instead of earning it like the rest of us."

An anti-compulsory movement against vaccination has become most necessary in India. When England can afford to lose the compulsion, it is more necessary that India should have the free will to adopt vaccination. Compulsion is a hateful measure, especially when it is directed for a disgusting operation where life may be endangered. To speak the least of it, it is mischievous.

Polygonum Hydropiper.

The *Medical Advance* for October says :

"In the provings of Dr. W. E. Payne, and the additions by Baryard and Hering, we have some symptoms that are very characteristic and rarely thought of, because this is one of the newer remedies that is rarely studied. In some parts of the country it is used extensively as a local irritant instead of mustard, and from the

characteristic symptoms of the skin it has received its popular name of smart-weed.

One prover described the symptoms as like *Aurora Borealis*. The pains are lacerating, cutting, flashing, pulsating, shooting and as erratic as *Pulsatilla* or *Lacacanium*. A case of sciatica that did not yield promptly had this characteristic symptom of smarting and rawness, as if burned, extending down the course of the sciatic nerve. It was not, however, confined to the nerve, but the external skin symptoms were almost as annoying, and continued night and day; *Polygonum* afforded prompt relief.

The symptoms of the throat are somewhat similar to those of *Capsicum*, *Sinapis* or *Sanguinaria*.

Throat dry, hot, burning, smarting, as if raw. Rawness with Smarting and burning, as if scalded, of tongue and throat. Glands swollen and sensitive to touch, < from cold, moist air. Sense of constriction in throat, with burning after swallowing, attended or followed by thirst.

Nose—Inflammation, smarting, rawness and soreness of Schneiderian membrane. Constant tickling and soreness in nose. Frequent sneezing with rawness and burning as from cold. Nostrils red, inflamed, with a swollen, plugged-up sensation. Sensation as if mucous membrane of eyes and nose was congested. Fulness and burning of nasal mucous membrane with constant dripping of clear albuminous mucus from posterior nares. The external nose cold and sore. These symptoms may be compared with *Arum*, *Cepa* and *Sinapis nigra*."

Dr. Clarke in his Dictionary of Practical Materia Medica has mixed the symptoms of the two *Polygonums*, viz., *P. Acre* and *P. Hydropiper*, though he has described most of them.

Grindelia.

The *North American Journal of Homœopathy*, for September, writes:

"There are two species of *grindelia*, *robusta* and *squarrosa*, whose indications are so alike that they may be considered together. Their chief use is antidotal, externally and internally, to rhus tox. poisoning. The old school use of *grindelia* in fluid extract is for the crampy coughs, asthma and cystitis of old people. The laity apply it externally to burns. Like all *compositæ*, *grindelia* has marked action upon the genito-urinary tract. It accelerates renal activity and causes burn-

ing on micturition. In females it excites a vaginal inflammation, while in the male it causes a reflex congestion, apparent in long-lasting erection. It also influences the vagus nerve, causing certain respiratory disturbances. Homœopathy uses the remedy in genito-urinary morbidities, particularly if there be synchronous respiratory troubles. On falling asleep respiration gradually slows and finally ceases until the patient is waked up by the impending suffocation and starts up gasping for air. (Cheyne-Stokes?) The drug has also been used in great cardiac and pneumonic weakness."

Grindelia squarrosa has a short proving by Dr. T. H. Bundy, and *G. robusta* is used empirically. Asthma and emphysema, with dilated heart have been cured by both. The unbearable pain in the liver and spleen is also a characteristic symptom of *G. squarrosa*. In that sphere it has never been used. In *Grindelia* respiration almost ceases during sleep with a feeling of suffocation. Gels. has waking up with the feeling that the heart will stop and the feeling can be prevented by moving. Lach. has aggravation after sleep but the indications are different.

**The Notochord of the Head in Human Embryos of the
Third to the Twelfth Week, and Comparisons with
Other Vertebrates: *Susanna Phelps Gage,*
Ithaca, N. Y.**

Science of September 7, writes:

"In the Cornell collection are many sagittal series which are especially favorable for the study of a mesal organ like the notochord. In a human specimen of sixty days the relations of the notochord to the cartilaginous base of the skull and the epithelium of the mouth are clear. On emerging from the axis, it forms a knotted protuberance dorsal of the base of the skull, passes diagonally through it to a pocket from the roof of the mouth, thence cephalad to come in contact with two other mouth pockets, thence diagonally dorsal through the base of the skull, again forming a knot and turning sharply ventrad, ending near the hypophysis but within the cartilage.

The same relations exist in a specimen of forty-eight days in which the base of the skull is not as far from the roof of the mouth and the excursion of the notochord is not so far ventrad.

At thirty-six days the condensed mesoderm foreshadows the skull, and the same general relations occur, the ventral excursion of the notochord being very limited and touching the straight roof of the mouth in three or four loops.

At twenty-eight and twenty-one days notochord lies directly in contact with the epithelium of the roof of the mouth, thus showing the beginning of the history. Transections verify the above observations.

The comparative study of pig, sheep, calf, mouse, cat, chick, amblystoma, frog, shark and lamprey shows that the notochord after

the earliest stages is usually completely separated from the roof of the mouth, being included in the more condensed tissue forming the skull and taking a straight course. In the pig, however, about twenty per cent. were similar to man, being in contact with mouth pockets.

In the calf, contrary to the observation of Forriep, the specimen examined showed the usual straight form.

The cephalic tip of the notochord in the above mentioned examples varies in relation, being in contact with (a) the hypophysis (outgrowth of skin); (b) Sessel's pocket (outgrowth of enteron), or (c) the first mesodermic head cavity (derivative from enteron). The last condition, found in shark, may be the typical one."

Jacksonian Epilepsy.

The *Medical Times* for September has the following :

"Is exhaustively discussed by C K Mills (*Boston Med and Surg. Jour.*, April 26, '06) This form of spasm has been an important or deciding symptom in successfully fixing the site for operation in the case of a cerebral tumor. Mills has had a number of cases of cysts of the motor region, in some of which unilateral convulsions or monospasms have been present, these evidently being due to the unstable condition of the cortex surrounding the cyst. It has been possible to expose the cyst, cut away its roof and so lessen the frequency and severity of the attacks. He gives several histories illustrating the importance of Jacksonian spasm in gross lesions of the cortex, especially in tumor and localized meningitis, in these cases other evidences of gross lesion in addition to the spasm were present. Such were monoplegia or hemiparesis with exaggerated reflexes on the side of the body in which the localized spasm occurred. With regard to symptomatology Tumors situated in other parts of the brain than the motor cortex may cause Jacksonian epilepsy; other lesions besides tumors situated in the motor cortex may cause this spasm, which may occur also in toxic and other disease in which no demonstrable focal lesions are present; a spasm closely counterparting the Jacksonian type may be observed as a reflex or a hysterical disorder; or it may be simply an integral part of the entire expression of a case of idiopathic epilepsy. Jacksonian epilepsy, apparently, of the motor area type, may be observed with cerebellar tremors. The gross lesions of the motor area which cause monospasm or hemispasm counterparting that produced by tumors are depressed fracture, localized meningitis, meningeal or cortical hemorrhage, local hemorrhagic encephalitis or cortical polioencephalitis and focal necrosis or embolism, including cases associated with general arteriosclerosis."

Since the discrimination of Jacksonian epilepsy many important surgical operations for brain tumours have been undertaken with success. The spasm as well as the hemiparesis point out the nature of the lesion.

The wonderful capacity of the brain for vicarious working.

The *Medical Times* for September, gives us the following interesting note :

"Is pointed out by Anton (*Monatsschr. f. Psych. u. Neurol.*, Jan '06). Oftentimes after great loss of brain substance one is unable, when many years have transpired, to detect any functional disturbance. The nervous system of lowly organism can regenerate parts, but this power is lost in the more highly organized. However, there is in the latter a wonderful power of adaptation, in that if a part be lost another part will take up its function. Case: A highly cultivated gentleman died in the possession of all his faculties; his brain was found after death to contain numerous white softening due to arterio-sclerosis. Again, Ewald operated upon a dog, removing one labyrinth, with recovery; then the other labyrinth was removed, with recovery; then one motor cortex for fore and hind limbs was removed, with recovery. Finally the motor cortex of the opposite side was removed, and this operation was followed by death. This experiment proved that the sensorio-motor cortex could take up the function of the labyrinths in addition to its own; and when both motor cortices were removed, not only were their normal functions lost to the animal, but also those functions which they had taken up after destruction of the labyrinths. Lucian's experiments showed the same substitution of function. Among human beings the educated deaf, dumb and blind, such as the Misses Keller and Bridgman, are examples *à propos*. Anton finds that the part taking up the lost function never performs it quite so efficiently as did the original part, and it becomes much more easily tired."

The adaptation of the several parts of the brain for fresh work in the absence of the action performed by the legitimate sphere is its wonderful capacity. In the loss of one, another does take up the useful business. In fact the function of the brain is a co-operative transaction. There are kinetic as well as the potential spheres. The potential spheres carry on the active function in the absence of the kinetic spheres.

The Right and the Left Liver.

The *Medical Times*, of October notes the following observations :

"DR. H. SEREGE, of Vichy, contributes to the *Revue des Maladies de la Nutrition*, March, 1906, a rather extensive article on the distinction of function of the right and the left liver. The conception of this functional independence dates back to Glenard in 1890, but Serege claims to have presented the first scientific demonstration to the *Journal de Medicine de Bordeaux* in April, 1901. The gist of the whole matter is the claim that the blood in the portal trunk is not thoroughly intermingled, but that the blood from the splenic and inferior mesenteric veins, with that of some small branches mainly from the stomach enters the left liver, whereas that from the superior mesenteric vein enters the right liver. The division into

right and left liver, following the distribution of the main division of the portal trunk, is traced along the biliary fissure to the point of discharge of the hepatic veins into the vena cava. Thus right liver includes right lobe and lobus spigelii; left liver left lobe and lobus quadratus. The lobus caudatus is not mentioned, but apparently belongs with the right liver.

Into the right liver drains the blood from the small intestine, rich in nutriment and comparatively free from toxic matters; into the left liver drains the blood from the stomach, spleen and colon and rectum, relatively poor in nutriment and rich in toxins, including exogenic injurious substances for the stomach or even, occasionally, gross poisons.

Silvestri (*Gaz. degli osp.*, 1905) confirmed Serege's experiments that aniline dyes followed the vascular routes described, and Pincerle, of Bologne, in a monograph published the same year, found that cellular necrosis located in the liver in similar relation to the application of phosphorus to the alimentary canal, between ligatures. Milne Edwards, Carl Vogt and Young in their comparative anatomies describe a complete independence of portal and biliary channels for the right and left portions of the liver of pigeons and some other birds. Brissaud and Dopter claim that the lobules of the left liver are much smaller and more numerous in a given area than those of the right in man.

The veins draining the liver enter the vena cava at different angles, the right at an acute angle, the left at nearly a right angle (75—110 degrees) so that the circulation in the latter is physiologically impeded. Soule and the author found that potassium ferrocyanide passed through the right liver in 45 seconds, through the left in 95 seconds. The importance of a relatively long sojourn of blood containing toxic matters, is obvious. Silvestri has also corroborated the author's statement that, owing largely to this delay of the circulation, glycogen is present in greater abundance after the period of intestinal digestion, in the left than in the right liver.

This conception of a distinct division in the physiology of the liver may be characterized as important if true. It must be conceded both by the claimants and by their critics that the division cannot be absolute. An exact anatomic line cannot be drawn between the areas of venous drainage and supply, indeed very free anastomoses exist. Some intermingling of liquid or semi-liquid contents in any container is inevitable. Thus, on the one hand, a sharp contrast cannot be made between the nature of the substances liable to be carried to the liver (or livers) from the respective drainage areas of the splenic and inferior mesenteric veins and of the superior mesenteric veins; and, on the other hand, even if this sharp contrast were possible, some mixture in the portal trunk would be inevitable. Solid particles, as of aniline dyes, would be much more likely to follow lines of current without crossing over, than would ordinary liquid ingredients.

The mere fact that notable quantities of glycogen are found in all parts of the liver under the same circumstances and that both right and left portions contribute to the formation of bile, as also the

newness of the discoveries of important histologic difference between these two portions, are against the theory. The only instance in physiology of a practical distinction in currents without a demarcation by walls, is found in the circulation through the foetal heart. Here, the blood moves under quite strong pressure and is guided so, that the distinct currents retain the impetus with which they leave the nozzles of vessels. Even with these factors, considerable mixture occurs. In the portal vein, the mechanic conditions are very different: the stream is comparatively slow and there is no special provision in the way of valves, or direction of currents to prevent intermingling. The conditions, indeed, are approximately what occur in a river formed by the union of two principal and a few small tributaries, and soon branching again, as about an island. Here, however, the question of absolute dimensions is important. Two streams of water joining, may preserve their characteristics of color for many miles, but if we reduce the streams to a fraction of a centimeter, there is not a corresponding diminution of the strip of mixture. In several instances, we have analogies for the results of the experiments with aniline emboli. Inspired foreign bodies tend to enter the left bronchus, cerebral embolism is usually right-sided septic involvement of the liver after dysentery is usually right-sided (contrary to what should be the case if dysentery is essentially a colitis and if Segere's theory is correct) and yet, in the former cases there is no corresponding physiologic distinction as to air and blood entering the respective areas of supply.

Segere quotes Glenard as claiming a distinct right and left pathologic reaction in the liver, corresponding to conditions in the two portal areas. As we recall Glenard's writings on this subject, he does not go so far as a clinician, as would be necessary to give support to Segere's claims and yet, he goes farther in the description of notable pathologic differences according to portion of liver affected by the portal circulation, than do most authors. The subject is interesting and deserves further study, but we can scarcely regard the bilateral hepatic theory except with scepticism."

Great difference of opinion exists as to the function between the right and left liver. Clinically we often observe that there is difference between the two. In infantile enlargement of the liver, the left lobe when hypertrophied shows the powerful action of the morbid material than the right. In fact the hypertrophied left lobe is difficult to be cured. There is rapid tissue metamorphosis in the left than in the right. Examination of urine in the case of hypertrophied left lobe shows more sugar than when the right is affected. Cirrhosis following the atrophy is more rapid when the left lobe is involved. It may be said that infantile hypertrophy of the liver establishes the anatomico-pathological observation as to the difference of the two sides of the liver.

CLINICAL RECORD.

Foreign

TYPHOID FEVER.

By DR. C. V. BENNINGHAUSEN.

Italics designate frequent symptoms; **SMALL CAPITALS**, the more frequent; and **bold face** the symptoms almost continually recurrent. The *total image of the disease* is then the following.

Vertigo.—**VERTIGO** (in all cases) most when **MOVING** and **RAISING UP**. *Vertigo even to swooning*, also while lying down and in the open air. Vertigo while lying down, improved from rising. Vertigo in bed in the evening. *Vertigo in the evening*, so as to lose sight and hearing.

Stupefaction.—*In the evening*, especially great **DIZZINESS** (in all cases). **DIZZINESS ON RAISING ONESELF**. Dizziness in the warm room.

Mind.—**DELIRIUM** (in most cases) mostly *at night*; *wants to escape from bed*; *does not know his own folks*; sees all manner of animals, snakes and creeping things.

Head.—Violent **HEADACHE IN THE EVENING**, in a *warm room*, aggravated by **RAISING UP** and by the least **MOTION**. **EVENING HEADACHE** in the **FOREHEAD**. Continual **HEADACHE** in the **OCCIPUT** and **NECK**. *Headache and dizziness after midnight*. Fulness in the head. Headache in the evening while resting. Headache in the morning, worse from moving. Headache from stooping. Headache from making a misstep or from striking the foot against anything.

Eyes.—*Inflammation of the eyes*, mostly only on the left side. The sight fails (only in a few cases). Photophobia.

Hearing.—**FAILING OF THE HEARING**. *ringing and buzzing in the ears*.

Nose.—*Bleeding from the nose*. Itching of the nose.

Face.—Deep **REDNESS OF THE FACE**. *Redness of one cheek, mostly the left*. Circumscribed redness of the cheek. Swelling of the *left* cheek; burning in the face. *Dry lips, they crack open*.

Mouth.—**DRYNESS OF THE MOUTH**. Dryness of the fauces without thirst. *Burning in the mouth*. The swallowing of the saliva is painful, but not that of food and of liquids.

Tongue.—Gray, covered with mucus. Tongue coated *white or yellow*. **THE TONGUE CRACKS OPEN**. The tongue blackish.

Appetite.—**TOTAL ANOREXIA**. *Insatiable hunger*. Desire for various things, and then they are refused. Aversion to meat. Ill-effects from fat and from vegetables.

Thirst.—**CONSTANT THIRST** day and night. **MODERATE THIRST**. *No thirst at all*. *Thirst in the evening after fever*. *Thirst at night*, less by day. Thirst in the morning, but not at other times. Thirst for a warm drink. *Continual thirst for cold water*.

Taste.—**BITTER TASTE IN THE MOUTH WHILE EATING AND AT OTHER TIMES**. *Sour taste of food*. Milk has an acid after-taste.

Sour after taste after eating. Salty taste in the mouth. All food tastes as if unsalted.

Eructation — **VERY MUCH ERUCTATION.** *Eructation with nausea every time after eating and drinking. Sour eructation after drinking water.*

Nausea.—*Nausea every time after eating and drinking. Much nausea in the afternoon and evening. Vomiting of solid food, but not of fluids. Vomiting of mucus mixed with blood. Vomiting of water in the evening, but not of solid food. Vomiting of sour water. Bitter vomiting. Immediate vomiting of all the ingesta.*

Stomach — *Violent pains in the stomach aggravated by every movement. Stitches in the stomach. Burning in the stomach with dyspnœa.*

Hypochondria.—Pains in the liver, aggravated by motion and by lying on the right side. Pains in the spleen, worse from motion and from lying on the left side.

Abdomen — **INORDINATE DISTENSION OF THE ABDOMEN.** BLOATEDNESS and FULNESS of the abdomen. COLICKY PAINS WHILE MOVING, often also worse when resting. Tearing and *Lancination* in the abdomen. *Colic, worse in the evening and afternoon. Colic when touched or pressed on the abdomen. Come EARLY IN THE MORNING, FOLLOWED BY DIARRHŒA. It feels as if a stone lay in the abdomen. The abdomen is quite hard. Lancination in the abdomen on taking a deep breath. Colicky pains in the morning on raising oneself up.*

Flatulence.—*Rumbling and noises in the abdomen, especially drinking water. Fermentation in the abdomen.*

Stool.—*Diarrhœa, often with a sour smell. Diarrhœa in the evening. Nocturnal diarrhœa. DIARRHŒA MERELY IN THE MORNING AFTER PREVIOUS RUMBLING AND COLIC. Painless diarrhœas. Stubborn CONSTIPATION. Hard, knotty stool. Delayed stool. Involuntary, unconscious stool.*

Urine.—RED, DARK URINE. *Thick, brown urine. Mucous urine. Difficult urination. The urine passes off involuntarily and unconsciously. Chaps in the urethra before urinating.*

Catarrh.—*Much bloody mucus in the nose.*

Respiration.—**GREAT DYSPNŒA AT THE SLIGHTEST MOTION AND WHEN TURNING ROUND IN BED.** *Dyspnœa in a warm room. Hot breath.*

Cough.—**MUCH DRY COUGH.** *Cough dry in the evening; in the morning with expectoration of mucus. Dry cough by night. Dry cough early in the morning. Violent pains in the abdomen at every attack of coughing. Headache when coughing especially in the forehead or in the nape of the neck.*

Throat and Neck.—**STIFFNESS OF THE NECK. PAINS IN NECK IN THE EVENING AND AGGRAVATED by MOTION.** Pain in the neck whenever the head is turned.

Chest.—Stitches in the left side of the chest, worse in the evening and when moving. *Pains in the chest in the evening. Pains in the right side of the chest from motion and from coughing. Tight-*

ness in the chest. **PALPITATION OF THE HEART** *when moving and when at rest.*

Back.—**VIOLENT PAINS IN THE SMALL OF THE BACK**, worse in the evening and during motion. *Pains in the back when lying on it. Pains in the back worse in the evening and while resting.* In the morning, while lying on the back, pains therein. Pains in the shoulder-blades, aggravated by motion.

Upper Limbs.—*Pains in the arms in the evening and from motion. Tearing in the lower arms.* Pains in the arms in the evening and at night. Beating about with the arms. Gathering flocks (of wool)

Lower Limbs.—**IN THE EVENING and FROM EVERY MOTION VIOLENT TEARING PAINS IN THE LEGS.** *TEARING in the knees and IN THE LEGS while sitting and standing, improved by motion. TEARING in the lower limbs, especially IN THE LEGS (not in the arms).* Great weariness in the lower limbs. Weakness of the lower limbs, so that he cannot stand.

Generalities.—**VIOLENT PAINS IN THE LIMBS, AGGRAVATED IN THE AFTERNOON, THE EVENING AND AT EVERY MOTION.** PAIN AND RESTLESSNESS IN THE LIMBS WHILE LYING DOWN. *Pains in the limbs while at rest, worse by day and when getting cold. EXCESSIVE WEARINESS. Trembling of the limbs. General aggravation in a warm room and in the warm air. COMPLETE ABSENCE OF PAIN. Quiet lying down.*

Sleep.—**COMPLETE INSOMNIA. CONSTANT STUPIFIED SOMNOLENCE.** RESTLESSNESS AND THROWING ONESELF ABOUT IN BED. *Sleeplessness after midnight owing to pains in the limbs. The sleep is disturbed by a rush of thoughts. Talking and muttering in sleep. Many dreams.*

Chills.—**CHILLS IN THE EVENING** especially while sitting down and at rest, *with or without thirst. Chill in the evening, while the mouth is dry.* In the evening, chill without thirst, with pains in the limbs while resting. *In the evening, chill while out of bed, heat while in bed.* Chill day and night, worse when moving. Chill alternating with heat. Early in the morning, chill with tearing in the limbs, worse when getting cold. *Constant internal cold through all the limbs.*

Fever Heat.—**DRY HEAT WITH THIRST.** *In the evening, severe heat with thirst, redness of the face, dizziness, headache and pains in the limbs.* In the afternoon, heat with dyspnoea. In the evening, intolerable heat in bed. *Predominant heat.*

Feverish Perspiration.—**COPIOUS PERSPIRATION IN THE MORNING. SEVERE NOCTURNAL PERSPIRATION, ALSO WHILE SLEEPING.** *Much perspiration, with thirst and tearing in the limbs. THE PERSPIRATION SMELLS SOUR. Perspiration merely after midnight. Nocturnal perspiration with simultaneous chill when moving and getting bared.*

The preceding list of symptoms, which is collected from eighty or ninety patients, will at once convince every connoisseur that several remedies had to be selected, and that, as always, it was indispensably

necessary to individualize each case most carefully. Although the greater number of the cases with their symptoms were reflected in *Bryonia alba*, and found in this their remedy, there were yet many other persons who either at once or in the course of their disease required also other remedies, such as *Pulsatilla*, *Rhus tox*, *Nux vom.*, *Kali carb.*, *Arsep.*, *Phosphoric ac.*, *Belladonna*, *Hyoscyamus*, *Ac. muriat*, *Taraxacum*, and, where the reaction was defective, *Sulphur* and *Carbo veg.*

In all these cases, without any exception, I used only the 200 potency, and each time only a single pellet as my experience of many years has showed me that my apprehension, that one or the other of the pellets might not be properly saturated, is altogether unnecessary. Only one time, when I ran out of the 200 potency of *Tarax*, I had to give the 30, but I found afterwards that the 1,000 potency of Jenichen's preparation was quite sufficient. Almost one-third of all the cases was cured with one single dose of the 200 potency of the suitable medicine; only very few received more than three such doses, and where this was the case, either the description of the case had been defective and incorrect, or mistakes in diet were made, or lastly, the patients had, before calling me, used all sorts of allopathic or domestic remedies. Of all these patients, only one died, and I shall faithfully relate the course of his disease below. All the others were restored, not only in a comparatively short time, but none of them had the least prejudicial sequelæ from this disease, as also is so frequently the case, or required any considerable time to regain their former vigor, excepting a few cases where the convalescents, by not following my directions, had relapses.

As I may presuppose that the general treatment of this disease and the criteria for the selection of the remedies are well known to every homœopath, I may limit my communication to a few concrete cases, to which I may subjoin some short remarks which may be new and worth knowing to one or another of your readers. I begin with the only case that ended fatally:

1. Gertrude D., in H., an unmarried servant-girl, twenty-seven years of age, had felt unwell for over a week and had been obliged for two days to keep her bed.

On the 13th of September, 1853, the symptoms, as communicated by a messenger, were the following; Colic, mostly in the morning and from motion; headache, worse in the morning and from motion; weariness in the legs; a good deal of thirst, more for warm than for cold drinks; no diarrhœa and no pains in the limbs; constant slumbering day and night, constant heat but no chill; the face deep red; the mouthily had not appeared for two months. She received 1 and 3, *Phosphoric acid* 200, 2, *Bellad.* 200; 4 §, one powder to be taken every twenty-four hours (in the evening).

Sept. 17. There are still colicky pains and also pains in the limbs worse at night and when moving. Vertigo even to swooning when raising herself up; much sleep; perspiration in the morning: 1, 3, *Bryonia*; 2, *Rhus tox.* 200, 4 §, one dose daily.

Sept. 21. Not improved; constant delirium; loss of hearing; aggravated in the morning, 1, *Sulphur* 200, 2, 4 §, 3, *Rhus tox.*, one dose every twenty-four hours. (I would here remark that not frequently in psoric individuals, where the medicine does not act at all, a dose of *sulphur* is necessary, and is usually very effective in removing the deficiency in the reaction of the vital force.)

Sept. 25. No results. There is violent delirium and she constantly desires to run away; much thirst. In the evening and at night there is much aggravation; she cannot hear yet; she keeps beating about with her arms: 1, 3, *Belladonna*; 2, *Stramonium* 200; 4§, a dose every twenty-four hours.

Sept. 28. Increased beating about with the arms; she does not recognize her friends; she sees nothing but snakes around her; face is a deeper red; constant dry cough at night, grasping at flocks. Only now I hear that the people in the house have used as a prophylactic, *Calamus* in brandy, and occasionally also gave some to the patient: 1, 3, *Hyoscyamus*, 2, *Belladonna* 200, every twelve hours.

Sept. 30. After No. 2 (*Belladonna*) the patient had rest, lying quietly looking forward, with involuntary discharge of urine and feces and in the morning a quiet death.

I must leave it to everyone whether he will share my conviction that the remedies given were disturbed in their action or not. Nor would I contradict, if anyone will assert that drops of the tincture given every hour or every two hours would have overcome the action of the *Calamus*. I am satisfied to communicate the facts without entering on suppositions after the event, the value or worthlessness of which cannot now be demonstrated.

II. Francis Schl., in H., a robust farmer, aged fifty-eight years. Six days before, a servant-girl who had been treated (allopathically) for typhoid fever had died in his house, a second girl treated in the same way was lying sick (she died a few days later). For several days he has felt himself affected and complains of tearing in all the limbs, aggravated in the evening and while resting. Fullness and ringing in the head, this up to now would improve in the open air while moving about in moderation. In the morning a bitter taste in the mouth. Ill effects from vegetables and fat in the evening; no thirst at all. In the evening some chill, oppressed and uncomfortable in a warm room; a hard stool, only becoming easier through coffee; formerly he had suffered from stomach troubles (owing to intemperance), and he has used much medicine on that account. Also now he has taken medicine once, but it caused aggravation and the death of his servant-girl finally moved him to take his refuge with me.

March 21, 1853. 1, *Pulsatilla* 200; 2, § 3, *Bryonia* 200, a dose every other evening.

March 30. He felt quite well after these medicines, but yesterday after taking too much veal, ham, beer and brandy, he had a relapse and has now colic, chills and violent pains in the limbs: 1, *Ipecac.* 200.

March 31. Rather worse than better. Great anguish and restlessness, constipation, colic, a chill: 1, *Pulsat.*; §, 4, 3, *Arsenic.* 200. A dose every twelve hours.

April 2. Dreadful anguish and hard, knotty stools. In the evening everything is much worse: 1, *Sulphur*; 2, 4, §, 3, *Arsenic*. 200. A dose every twelve hours.

April 5. He was better, but to help his stools he has again drunk coffee and so last night was worse again, with great anguish and alternating chills and heat; no sleep at all; hard, knotty stool: 1, *Rhus*; 2, 4, §, 3, *Bryonia*. A dose every twelve hours.

April 7. Much improved. In the morning he still felt pressure in the abdomen, improved by moving. In the morning still some heat, then a chill: 1, *Rhus* 200; 2, 4, §, every twelve hours.

April 11. About cured. Still some perspiration and weakness, but he complains of nothing else. 1-4, §, so that he may not yield to his customary intemperance. Since then he has been quite well.

Besides this case, I had several, where, after rapid improvement, often in consequence of a violent, insatiable hunger (in which *Pulsatilla* is generally the most useful remedy) a relapse took place, which for its complete cure usually required more time than the original disease.

III. Anton Schl., in H., fifteen years old, son of the above, also infected with typhoid fever; for five days he has had colic, worse in the early morning, in the evening headache in the forehead increased by motion, much chill, deep red face, aversion to meat; dry heat; cough in the morning with more expectoration; the stool normal; violent vertigo, so that he cannot stay up.

March 23, 1853. 1, *Bryonia* 200; 2-4, §, every twenty-four hours.

March 27. Improvement has set in; much sleep and in the evening in bed, headache, redness of the cheeks; dizziness in the head, worse in the evening; no more cough: 1, *Rhus* 200; 2-4, §, every other evening.

April 3. Feels nothing more of his former ailment, not even weariness, he has an insatiable hunger. 1, *Pulsatilla* 200; 2, 4, §, every other evening.

On the second day everything was normal.

IV. Heinrich Schl., in H., four years old, also a little son of the farmer (No. II.), also now took sick, but in a different way. For more than six days, every afternoon from 3 to six o'clock, severe, dry heat with violent thirst, but without any thirst, followed by a deep sleep; all night, delirium; he often asks for food, but rejects what is brought; sudden weariness and prostration; during the fever, great dyspnoea and strikingly hot breath; stool soft; no nocturnal perspiration and generally dry, hot skin.

June 12, 1853. 1, *Phosphorus* 200; 2, 4 §, once a day. Convalescence immediately followed and nothing else was needed.

V. Wilhelm A., in H., twenty years old, has been sick for two weeks, and is now quite confined to his bed. In the beginning there was weariness and painful stiffness of the neck (a very customary symptom of incipient typhoid fever), now he has also intolerable pains in the head and in the abdomen, and stitches in the left side of the chest, aggravated by the least motion, and in the evening all symptoms were worse; much thirst, copious nocturnal perspiration.

For fifteen years he has been suffering from a severe moist eruption on the whole of his scalp, which has suddenly dried up; since then he has also had much delirium.

August 7, 1853. 1, *Bryonia* 200; 2, 4 §; every twelve hours.

August 9. The colic, the lancinating pains in the side and the delirium have quite disappeared; the headache is as yet but little better, and is worse on moving; about noon there is a sour-smelling perspiration; sour-smelling, diarrhoeic stools; great restlessness while in bed. 1, *Rhus* 200, 2, 4 §; every twelve hours.

August 11. Further improvement in all symptoms; very moderate thirst; perspiration and diarrhoea have disappeared, but there is still great weakness and no appetite for eating at all. 1, *Sulphur* 200; 2, 4 §; every twelve hours.

August 14. Further improvement, also the head is a little moist again, but there is again some diarrhoea and colic while at rest, and great weakness; the pulse is much accelerated in the morning, but slower again in the evening. 1, *Arsen.* 200, 2, 4 §, every twenty-four hours.

August 20. As good as well; some malaise yet in the morning; the appetite is good. 1, *Nux vomica* 200; 2, 4 §; every two days. After this there was good health; indeed, he felt better than for years.

VI. Gertrude K., in H., twenty-two years old, had been in the house where several typhoid fever patients were, and had been infected for a week. Violent tearing pains in all the limbs, aggravated in the evening and from every motion; headache on moving and on raising up; at night, violent thirst, no diarrhoea; tearing in the abdomen; copious perspiration while sleeping; for some time she has had an eruption on the side of her nose; strong fever.

August 24, 1853. 1, *Aconitum*, 2, *Bryonia* 200, 3, § 4; every twenty-four hours.

August 29. I had looked with much confidence for a considerable improvement, but was quite disappointed in my expectations; hardly anything had improved and some new ailments were added. There was now no stool at all; the colic was very violent; loud rumbling and noises in the abdomen, especially after drinking water; the fever still strong. 1, *Phosphorus* 200; 2, 4 §; every twenty-four hours.

September 3. Again no success. Now, besides the violent colic, there was vomiting in the evening, as soon as she rises or raises up, but merely watery masses, not the ingesta, were vomited. 1, *Sulphur*; 2, 4 §; 3, *Arsenicum* 200; every twenty-four hours.

September 10. On this there followed a great and decided improvement in all symptoms, so that she considered herself restored, but during the last days, especially during the morning and in motion there was dizziness and some colic. 1, *Nux vom.* 200; 2, 4 §; every two days.

September 30. Since then she has felt well until two days ago, when she, besides an eruption on her face, and especially about the mouth, had thirst in the morning and frequent vomiting of all the ingesta. 1, *Calc. carb.* 200; 2, 4 §; every two days. Since then she has felt perfectly well.

VII. Heinrich D., in H., twenty-four years old (the brother of patient No. 1, who had died), was now also seized, but was not deterred by the death (caused by herself) of his sister from seeking aid from me. In the morning and forenoon, diarrhoea preceded by colic; pains in the head, neck and shoulder-blades, aggravated in the evening and from every movement; in the evening, a violent chill; little thirst by day, but more in the evening after lying down; at night, dreams and delirium.

August 28, 1853 1, *Bryonia* 200; 2, 4 §; every twenty-four hours.

September 1. Incipient improvement. There is still colic, but less diarrhoea; sour-smelling perspiration; pain in the right arm and the right shoulder (about which I could find out no further particulars). 1, *Rhus* 200; 2, 4 §; every twenty-four hours.

September 5. The pains in the right arm and shoulder are worse when he lies on them in bed, now there is also diarrhoea in the early morning and in the evening; thirst in the morning. 1, *Kali carb.* 200; 2, 4 §; every twenty-four hours. Followed by complete restoration.

VIII. Francis C., in H., nineteen years old, has been unwell for several days, and had finally to lie down. First a chill, then dry heat with headache, excessive bloatedness and fulness of the abdomen; great dryness in the mouth, but without any considerable thirst; vomiting of water with a sour taste; at night and in the morning repeated diarrhoeic stools, no pains, but great weariness in all the limbs; while resting he feels tolerably easy, but every movement aggravates his condition.

August 31, 1853. 1, *Phosphor*, ac. 200, 2, 4 §; 3, *Arsenic.*; every twenty-four hours. In four days he does not complain about anything, and is so far restored that on the fifth day he resumes his rural labors.

IX. William W., in H., thirty-two years old, being infected with typhoid fever; which afflicts his home, and from which already two persons there have died (under allopathic treatment), complains of chills and tearing in the limbs, aggravated early in the morning and while at rest, improved as he got warmer, worst in the cold and when he gets cold great dizziness in the head, no appetite at all, sleeplessness owing to restlessness while lying down, diarrhoea, no thirst.

September 12, 1853. 1, *Rhus* 200; 2, 4 §; every twenty-four hours.

September 17. A little improvement, but not much; the old symptoms. 1, *Bryonia*, 2, 4 §; 3, *Rhus* 200; every twenty-four hours.

September 21. Now there is quite a considerable improvement, and most of the symptoms have quite disappeared; he only complains now of lack of appetite and sleep, and feels somewhat worse in the evening than in the morning. 1, *Sulphur* 200; 2, 4 §; every twenty-four hours.

September 27. Since yesterday, when he made a gross error in diet, with coffee and brandy, he has had a relapse and is very sick; worse after 4 P. M. 1, *Pulsat.*; 2, 4 §; 3, *Bryonia*; every twenty-four hours.

October 1. Better again, but there is still a tendency to swooning and vertigo when raising up, and pains in both legs, not in the arms, as it were, a drawing, worse when at rest. 1, *Tarax.* 30; 2, 4 §; every twenty-four hours.

October 8. The pains in the legs disappeared at once and he now feels well, only some weariness. 1, *Kali* 200, 2, 4 § every two days. Followed by complete restoration.

X. Elizabeth Sohl, 21 years old, a servant-girl in St., has been sick for five days, no doubt infected by a typhoid patient whom she had nursed. In the beginning, violent pain in the limbs; these pains have now disappeared; dizziness in the head and vertigo, even so as to fall down, worst when she raises herself, deep redness of the face, much heat and perspiration, constant somnolent lying-down, slight deliria like dreams with talking; in the evening, restlessness and throwing herself about in the bed without waking up; she does not complain about any pain when questioned.

September 17, 1853. 1, *Phosphor. ac*; 2, 4 §, 3, *Belladonna* 200; every twenty-four hours.

September 22. Quite restored, needs nothing more.

XI. Maria Anna L. in H., a country girl, eighteen years old, has been complaining for four days about the usual incipient symptoms of typhoid fever, and now, confined to bed, she presents the following symptoms: Violent headache in the evening, aggravated when raising up and from motion; vertigo and dizziness on raising herself up; pains in the limbs in the afternoon, worse when perspiring and resting; constant restlessness and change of position in bed, moderate thirst, tardy stool, sour taste of foods and even of milk; splenic pains, aggravated when lying on the left side; much sleep, towards evening, aggravation (The connoisseur will at once see that the ordinary remedies were not here suitable.)

October 5. 1, *Sulphur*; 2, 4 §; 3, *Culcaria* 200, every twenty-four hours.

October 9. Quite considerable improvement, but is still somewhat dizzy; pains in the limbs both when at rest and in motion, much thirst early in the morning and in the morning and in the evening, sour after-taste after every meal. 1, *Nux vom.* 200; 2, 4 §; every twenty-four hours.

October 13. Further improvement, but there are pains in the limbs in the evening and while at rest; in the evening, after the fever, thirst; bitter after-taste after every meal. 1, *Pulsat.* 200; 2, 4; every twenty-four hours.

October 17. Perfectly restored. (I have communicated this case in order to present a rare deviation from the usual symptoms of the disease and the remedies accordingly chosen, but also to indicate that the sour after-taste of food usually points to *Nux vom.*, but the bitter to *Pulsat.*)

XII. Bernard D., twenty-four years old, living in R., has been infected for a week with the typhoid fever raging there very violently. Violent pains in the limbs, worse in the evening and from motion; constant violent thirst, much thirst, feels as if there was a stone in

the abdomen, constipation for several days with distension of the abdomen, red urine, the tongue is chapped.

September 20, 1853. 1 and 3, *Bryonia*; 2, *Rhus* 200; every twenty four hours.

September 25. Decided improvement, but there are pains still in the limbs when moving and red urine. 1, *Sulphur* 200; 2, 4 §; 3, *Bryonia* 200; every twenty-four hours.

October 10. After this he was quite well and could work again, but since yesterday he had a relapse owing to excessive drinking of coffee (five cups), and now he complains of dreadful tearing in the lower limbs, not in the arms, and bloatedness of the abdomen. 1, *Tarax.* 1000 (Jenichen's); 2, 4 §; every twelve hours (I took this high potency this time, though I had not used it before, in order to institute a test of its efficacy in this disobedient patient, since the disease was not of a kind demanding instant help.)

October 13. The pain in the legs and the distension of the abdomen have quite disappeared, but now there are pretty severe pains in the back, constipation and difficult urination, with thick brown urine. 1, *Nux vom.* 200, 2, 4 §; every twenty-four hours.

October 18. Complete cure.

These twelve cases, to which I might add more than thirty more, where a single dose of *Bryonia* 200 or *Rhus* 200 sufficed for a complete cure, will be sufficient to put the efficacy of high potencies beyond all doubt, and this would accomplish my present purpose. If anyone has been able with low tinctures and oft-repeated doses to secure quicker and more perfect cures in this kind of disease I would request them in the cause of science to make as open and faithful a communication about it as I have done here. But in case that massive and repeated doses should only reach the same goal as I have reached I would retain my small and rare doses, and only go back to the mother tinctures if these should be found a considerable gain for the patient, for I consider it foolish to use much where little will do, and to knock a fly dead with a heavy stone where a slight pressure of the finger will suffice. Besides, my journals and extended experience will show that the patient will recover after well-selected high potencies more quickly than after the low dilutions, which are often followed by a slow convalescence, an advantage which I also value highly.—*Homœopathic Recorder*, September 15, 1906.

Gleanings from Contemporary Literature.

PROGRESS.

In our July issue we had a leader entitled "Slow but Sure," in which we pointed out how steady and sure, though slow, was the absorption of the details of HAHNEMANN'S teaching by the old school, and the infallible result in the future of the adoption of homœopathy. It was long, and our quotations, given *verbatim*, might seem to many unnecessary, but a moment's consideration would evidence the importance of giving such quotations in full. If simply condensed, our readers might pass them by unnoticed, or, perhaps, conclude that they were not stated by us as written by the authors, and so be of no value.

Still more do the articles we now quote require to be reproduced entire. Were they condensed, or "boiled down," half the pith of them would be lost. They must be given as written by the author, else no one could be sure that the points brought out were as they were intended, or written. This must be our apology, if one were needed in the circumstances, for reproducing these remarkable articles *verbatim*. We have more than once had to notice the liberality and broad-mindedness of the EDITOR of the *Medical Brief* of New York, in inserting articles, some of them purely and openly homœopathic, others homœopathic in their treatment, and in every way except the absence of any mention of the principle of similars, or of the word homœopathy or the name of HAHNEMANN. In the July and August Nos. of the *Medical Brief* we find a paper, this time from an important part of the British Empire, entitled "Homœopathy vs Allopathy," by N. SINGA, M.D., Killarney, Queensland, Australia.

It is as follows :—

I.

"With a kindness, for which I desire to express my sincere gratitude, and with a broad-mindedness for which he deserves the unstinted admiration of all right-thinking members of the profession, the Editor of the *Medical Brief* has consented to publish the few following notes on what I believe to be a subject of much importance to allopathic practitioners everywhere, more especially in the United States and all other English-speaking countries, viz., the Controversy between Homœopathy and Allopathy."

"Much as many of us may be unwilling to admit it, and contrary to the stereotyped statements by which a large section of the allopathic press endeavour to lull us into apathy, to the effect that homœopathy is dead, homœopathy is exploded and discredited, etc., etc., it is nevertheless a fact that homœopathy is slowly but steadily progressing. At the beginning of last century it had only one representative, namely, Hahnemann himself, but now it has adherents all over the world. The number of

homœopathic practitioners, hospitals, dispensaries, etc., is continually increasing, and the section of the public who prefer to have their ailments treated by homœopaths (and, let it remain *entre nous*, do not seem to regret it) is becoming larger every year; while the controversy between the two schools, which most, if not all, allopathic journals either affect to ignore or else dismiss with a few sneering remarks, is vigorously and unabatingly kept up by the homœopaths in periodicals, books, and pamphlets, a good many of which are constantly and freely circulated among their adherents and sympathizers. I feel sure I need not remind the readers of this journal that there are now in the United States alone about twenty thousand homœopathic practitioners, with between twenty and thirty homœopathic colleges officially recognized and empowered to grant degrees to their students; eighty-five general hospitals, sixty-seven special hospitals, nine national societies, thirty-three State societies, forty-two medical clubs, thirty medical journals, and fifty-eight dispensaries. But what, in my opinion, is certainly advisable that allopaths in America and elsewhere should be reminded of is, that for every homœopath who is consulted there must perforce be an allopath who is not wanted. And this naturally brings us face to face with the very pertinent question: What are we doing to safeguard our interests and our position? Let me not be misunderstood. I should be very sorry to say a single word which may have even the appearance of animosity or hostility against homœopaths. I have reason to know that by far the largest majority of them are neither unfair nor unscrupulous adversaries, but they undoubtedly are our competitors, and whilst on the one hand we have no right to find fault with them for legally competing with us, on the other we certainly cannot be blamed if we look after our own interests.

"Unfortunately for us, however, compared to the untiring energy of the other side, the part we are taking in the competition is far from being what it should be. In fact, all we are doing in this important matter is simply to sleep on our laurels, the laurels, being represented by the fact that rightly or wrongly we are what the homœopaths are wont to call the 'dominant school,' and that, therefore, nothing can harm us. Consequently, many of us are pretty often found doing what we should not, that is, pooh-poohing homœopathy without even knowing the meaning of the word, and determinedly leaving undone the very thing we certainly should do, that is, to learn for ourselves what homœopathy means, and what it is.

"What? Study homœopathy? Yes. The time has come when, if we persist ignoring homœopathy, we will do so at our own peril."

"And that is why, as an allopath, who in a practice of over twenty years, has found time to make himself fairly well acquainted with most, if not all, the pros and cons in connection with homœopathy, I am only too glad to be able to place before the readers of the *Medical Briefs* a concise but clear and accurate statement of its fundamental principles and of its practice, followed by a brief outline of comparative materia medica

and therapeutics. Coming, as they do, from an allopath, I venture to hope that the following notes will be read without suspicion of bias or *ex-parte* proclivities, and that thus they may fulfil the only purpose for which they are written, namely, that as many allopaths as this journal will reach may have their eyes opened, and be led to acknowledge that for the sake of our patients, as well as for that of safe-guarding our position, homœopathy is worth studying, because there is worth knowing.

II.

"The founder, not the discoverer, of homœopathy was Samuel Hahnemann, who was born at Meissen, in Saxony, in 1755, and whose eventful life ended in April, 1843. His remains were interred in the Montmartre Cemetery, and left there without a name, until they were exhumed in 1898, and removed to the Pere la Chaise Cemetery, where a monument was dedicated to his memory.

"In giving a studiously short account of the proceedings at the dedication of that monument, a writer in a London medical periodical thus concluded his remarks. "It is a pity that his bones were not allowed to rest unwept, unhonoured, and unsung, considering that his tenets and practices are to-day almost as dead as the apostle himself." Writing as an allopath I confess to a sense of shame and humiliation at the thought of a medical journal stooping so low as to publish such bitter and contemptuous remarks of a dead man, whose 'tenets and practices' we may not accept, but whose memory we should respect, if for nothing else, at least for his courage in proclaiming his honest convictions in the face not only of scorn and ridicule, but also of relentless persecution. It is worse than foolish to think that we can blot out a man's name from the pages of history when that man has been a maker of history. Hahnemann did not discover the so-called 'law of similars,' which in its embryonic form was known to others long before him. We find, in fact the principle enunciated by Hippocrates, who wrote, 'That which produces a strangury where it did not exist, cures an existent strangury; that which produces cough and fever where they did not exist cures existent cough and fever.' What Hahnemann did was to rediscover the principle, to study and elaborate it, to give it the impress of a scientific rule, and to found on it the therapeutical system which is called homœopathy. Even disregarding, if we wish, the fact that Hahnemann was a great scholar, an accomplished linguist, and a philosopher of no mean order for the time in which he lived, shall we so forget ourselves and our social position as members of the noblest profession in life, as to heap contempt and contumely on his memory, merely because his 'tenets and practices' do not agree with ours? Or shall we not, rather, manly and nobly honour his memory as that of the man who has done for medicine more than any other ever did? We look in vain through the nineteenth century for a man whose work in the field of therapeutics could be compared in its importance to Hahnemann's until we come to Pasteur. And yet, if homœopathy should prove to be what homœopaths

maintain that it is, even Pasteur's work appears small in comparison with the magnitude of a general system of therapeutics.

"Be that, however, as it may, it is very interesting to know what it was that led to the rediscovery and consequent promulgation of what might be called the soul and spirit of homœopathic. Somewhere about 1790 Hahnemann was translating Cullen's *Materia Medica* into German, when, having reached the article on cinchona, he found that he could not agree with Cullen's explanation of the febrifuge properties of the now twice famous bark. For the sake of experiment he took four drachms of good cinchona twice a day, with the result that not long after his feet, the tips of his fingers, etc., first became cold, and he felt tired and sleepy, then his heart began to beat, his pulse became quick and hard; felt uneasy, trembled, but without rigor; weariness in the limbs, beating in the head, red cheeks, thirst, in short, all the symptoms of ague without the rigor. This happened every time he repeated the dose, and on leaving it off it never occurred again. Here, then, is what homœopathic writers are fond of calling Newton's apple of homœopathy; and as a further step in the field of investigation we learn that Hahnemann began to collect the different morbid phenomena which other observers had from time to time noticed as produced by medicines. But as the number of these was not great, he began to 'prove' drugs on the healthy body, when lo and behold, 'the symptoms they produced on the health corresponded wonderfully with the symptoms of the morbid states they would easily and permanently cure'

"And here we might well say: *State, viator*, because here we have the genesis of homœopathy as well as of fundamental principle which governs it, namely, *similia similibus curentur*. But as the latinity of this principle, as well as the philosophical definition of it, have, strange to say, been a source of much acrimony between the homœopaths themselves, for the sake of information I will just refer to them.

"The first controversy among homœopathic writers was whether the principle as enunciated by Hahnemann, was *similia similibus curantur* or *curentur*; and I am glad to say that the more sober-minded among them have succeeded in establishing that it is *curentur*. This gives the principle its proper character of a precept, rather than *curentur*, which would simply be absurd, as it would give the principle the tone and the authority of a universal and infallible dogma.

"The other controversy was whether the enunciated principle is to be called the law or the rule of similars. But on this, unanimity is yet a thing of the future.

III.

"Coming, now, to the crucial question, 'What is homœopathy?' I have very little doubt in my mind but that if a kind of allopathic plebiscite were taken, so as to collect the largest possible number of answers to it, 90 per cent of all the answers would be somewhat like this: Homœopathy is a sort of quackery, the practice of whose adepts consists

in giving infinitesimal doses of medicines, which can do neither harm nor good ; no bitter, in fact, than old women's nostrums, and the cures ascribed to it are mere products of the imagination.' But that is not so. Those answers would have no other foundation than prejudice and hearsay evidence, very poor things to base anything on under any circumstances ; and I maintain that for our own interest it is necessary* that we should know the truth, and should not be afraid of facing it, be the consequences whatever they may.

"And the truth is that homœopathy, as such, is no quackery, but that it admirably lends and has lent itself to unlimited quackery from its very beginning, nobody can deny. Nurses and midwives, barbers and herbalists, clergymen and missionaries, army and navy officers, mostly on the retired list, without mentioning others, whose names are legion, and who somewhat late in life find themselves with nothing more pleasant or more profitable to do : all these seem to have a peculiar fancy for 'a little homœopathic doctoring, you know.' Of course, they would do the same with allopathic medicines if they could, but they dare not. Allopathic medicines are generally mixtures, and they are known to be rather unsafe for lay people to meddle with. Besides, they are, as a rule, more or less unpalatable, and last, but not least, they are rather expensive. But with homœopathic medicines it is quite different.

"That is how the public talks, but whether it is for those or other reasons, the fact is that homœopathic quackery is very prevalent, and I should not be at all surprised to hear that in the United States homœopathic quacks are as numerous as homœopathic physicians. And what is still worse is that all homœopaths, from the top to the bottom of the Hahnemannian ladder, endeavour to do all they can to popularize, as they say, homœopathy by publishing cheap books for the public, such as *Household Medicine*, *Family Practice*, *Family Homœopathist*, etc. And yet, in spite of all that, we have no right to say that homœopathy is quackery.

"We are bound to acknowledge that homœopathy is a method of therapeutics based on three fundamental principles, which, though appearing to our uninitiated minds like absurdities and paradoxes, have yet stood the test of a century of criticism and opposition, and for those who practice in accordance with them they are as true and reliable to-day as they were one hundred years ago when first proclaimed by the man who rediscovered them. Those principles are : (1) *Similia similibus curentur*—let likes be treated by likes ; (2) Small doses ; (3) Single remedy.

* "1. *Similia similibus*.—In order practically to understand the meaning of this principle, which is the very kernel of homœopathy, we will do well, I think, if we make a brief excursion into our own allopathic field, and in so doing we could hardly choose a more reliable guide than Ringer's *Handbook of Therapeutics*.

• * Beginning, for choice, with mercury, at page 156 (eleventh edition), we read of mercury as purgative, while on the following three or four

pages the perchloride in doses of one-eightieth grain, and grey powder in doses of one-sixth and one-third grain, are recommended as powerful anti-diarrhæica.

"At page 293 we find arsenic responsible for the production of eczema, urticaria, lichen, etc., while on page 297 we read the statement that it cures psoriasis, eczema, lichen and pemphigus. At page 417, the author speaks of ipecac. as 'a mild, tardy, but certain emetic,' and on page 418 he tells us that 'few remedies are so efficacious as ipecac. in checking certain kinds of vomiting.'

"Finally, to quote only more instance from Ringer, at page 493 we are told that jaborandi and pilocarpine are powerful diaphoretics and sialagogues, and on page 495 we find the seemingly contradictory statement that pilocarpine in doses of one-twentieth of a grain checks profuse perspiration, while, further on, Dr. Ringer tells us this: 'Not only do arresters of secretions, like atropia, etc., check excessive perspirations, but sweaters in small doses are equally effectual in checking undue perspiration, as in phthisis.'

"Now, have we, or do we know of any theory that could explain to us this kind of double dealing on the part of drugs, this, to all appearances, contradictory action? How can the same remedy produce and check perspiration, induce and check vomiting, purge and stop diarrhoea? Ringer simply states that it is so, but does not say why. Shall we, then, accept the statement as we read it, and act upon it without enquiry, which, alas, we very often do, or shall we for once become inquisitive, and demand an explanation from those in authority? We should, of course, choose the latter as the more reasonable alternative; but if we do so, then we must try and find out things for ourselves, as those in authority may, either, like ourselves, be unable to give a clue to the riddle, or else they may be unwilling. And, so far as I am aware, the only clue, the only plausible explanation of why a drug should act in two, differently and seemingly diametrically opposite directions is the homœopathic principle *similia similibus*.

"Once more, then, What is implied by *similia similibus*? An ounce or so of sulphate of magnesia, taken in health, will purge, but a few, sometimes as few as five, grains of it is one of our best remedies for certain kinds of obstinate diarrhoea. Here, therefore, is what the principle means: Every drug given to a person in health in large and, if necessary, repeated doses, produces some sort of disorder, ailment, or disease, which disorder, ailment, or disease that same drug, given no longer in large and repeated doses, but in small, at times very small, and not necessarily frequent ones, will cure, in the person suffering from it. In other words, a drug will cure, in the sick the same disorder, ailment, or disease which it produces in the healthy. Hence, the definition of homœopathy as 'the therapeutic method of prescribing medicines, which when taken in health, produce a condition similar, to that we desire to cure.'

"Here, however, the question naturally arises: How have the homœopaths succeeded in finding out the effects of drugs on healthy persons? And the answer is: (1) By the so-called 'provings'; (2) By the symptoms in cases of poisoning. 'Proving' means experimenting with drugs upon the healthy. A person in health takes, for example, a fairly large dose of aconite, repeating it, if necessary, until symptoms are produced, which symptoms are duly noted, together with all the circumstances connected with them, that is the time when they first appeared, how long they lasted, the time when they lasted, the time of their highest intensity, the order of succession, etc., etc. When several provers have been thus experimented upon, all the symptoms are duly checked, arranged, and, finally, set down as the pathogenesis of the drug. As it is unnecessary for me to mention all the vicissitudes of the various provings, and all the pruning to which it has been deemed necessary to subject many pathogeneses, I will content myself with saying that by far the largest majority of the pathogeneses, as they exist at present, have been expurgated from untrustworthy symptoms, and that, therefore, they are considered quite reliable.

"We shall see, in the course of these notes, that the homœopaths themselves admit that *similia similibus* has its limitations, and that therefore, it cannot be claimed that it is a universal and absolute principle, likely to hold good in every conceivable case, but what they do claim is that it does hold good in a very large majority of cases, so large, in fact, as to make the limitations of very little importance.

IV.

"2. *Small Dosage*.—Though only the second in importance of the three principles which govern homœopathy, this is, nevertheless, almost the only one by which homœopathy has been known in the past, and is known even now to the public at large, as well as to the largest majority of allopaths. The jokes about the minuteness of homœopathic doses have become proverbial, and any man would be sure to resent being told that his mental abilities or moral qualities are rather homœopathic. The smallness of the doses, moreover, has also to account for the other popular notion that homœopathic medicines are quite harmless, so much so that even a bottleful of any of them 'would not hurt.' This, however, is far from being the case, as a bottleful of aconite 1x, nux vomica 1x, or gluonoine 2x, might prove more harmful than many people may think. Besides, though the reduced dose is of the essence of homœopathic practice, there are plenty of remedies in the homœopathic materia medica which are usually given in rather large doses, as, for example, carduus, crategus, quebracum, etc. For the matter of that, there is no lack of homœopathic practitioners who do not at all mind prescribing ten-grain doses of bromide of potassium when, as in some rebellious cases of epilepsy, they find that they can do nothing better than adopt what they call the palliation of the bromides.

"One thing should, undoubtedly, be placed to the credit of homoeopathy, and that is that its small dosage has had a silent and unobtrusive, but none the less decided, influence on allopathic posology, and Trousseau himself, who certainly was no admirer of homoeopathy, could not forbear remarking, in the course of one of his *Lecons Medicales*, that allopathy could learn a great deal from it in the way of assisting, rather than doing violence to nature. At all events I, for one, unhesitatingly believe that homoeopaths have right on their side when they say that the small doses advocated nowadays in allopathic text-books, like Ringer's and others, are another instance, not so much of unconscious, but rather of conscious, though unacknowledged, homoeopathy.

"Be this, however, as it may, it should now be easy for us to understand that the principle of the reduced dose is a natural corollary of what we have seen in connection with the principle *similia similibus*. But even apart from the fact that *similia similibus* would be meaningless without it, the reduced dose coples, on one side, with the old aphorism, *primum non nocere*, and on the other with the homoeopathic precept that medicines should be administered in doses too small to cause any disturbance.

"If we grant the correctness of *similia similibus*, it must necessarily follow that while a drug must be given in massive doses in order to produce what homoeopaths call its primary action, and what we, to give it a more familiar name, might call its physiological action, it is evident that when the same drug is to be used medicinally, it should be given not only in smaller doses, but also in doses too small to produce what, in homoeopathic language, goes under the name of 'aggravation'.

"Thus, for instance, we will be able to understand what we read in Ringer's *Handbook* about nitrite of amyl. We are told that, whether administered by inhalation or by subcutaneous injection, this substance causes, among other symptoms, flushing of the face, owing to peripheral arterial dilatation, and the dose required to produce this flushing may vary between five and ten drops by inhalation. But nitrite of amyl is also a good remedy for flushings of the face, especially in women at or near the menopause, and, therefore, the question is—What should be the dose of the remedy when employed to cure climacteric flushings? Shall we give five drops by inhalation? That would certainly aggravate, if it did nothing worse. In one case Dr Ringer found that one drop, given by the stomach, caused alarming symptoms, such as deadly pallor, giddiness, and unconsciousness. Of course, he says, this was due to special susceptibility to the drug, but after repeated experiments he came to the conclusion that 'for the most part these patients can bear one-third of a minim without disagreeable symptoms, but a tenth, nay, even a thirtieth of a minim, will, in some patients, counteract the flushings.'

"Here, then, we have not only one more illustration of *similia similibus*, inasmuch as the same drug which causes the flushings where they do not exist, cures them where they do exist, but we have also a practical demonstration of the value of the small dose when given for therapeutic purposes.

"How are the ~~up~~duced doses obtained? By trituration with sugar of milk for insoluble substances, such as phosphate of iron, of lime, etc., and by dilution of the tinctures in the case of vegetable or soluble substances. There is a decimal and a centesimal system of attenuations. In the decimal the first degree of attenuation, otherwise called potency, corresponds to our 1 in 10, and is marked 1x; the 2x means 1 in 100; 3x, 1 in 1000, and so on, each successive attenuation being equivalent to a further subdivision by ten. This is the oldest in use, and, undoubtedly, the best. The centesimal, in which the first potency corresponds to 1 in 100, further subdivisions being by 100, and which was introduced for the benefit of those who think that one in ten is too low to begin with, serves, in my opinion, no other purpose than that of suiting the fancies of high dilutionists.

"The subject of attenuations has been another source of discord in homoeopathic ranks, and there are the low, the medium, and the high dilutionists. Among the latter the so-called high potentialization has already reached the serene and ethereal regions of the unconceivable, but the more conservative practitioners are quite content with the low and medium attenuations. But even these are far and above what an average allopath could reconcile himself to. What good, he would say, can the thousandth, the hundredth, or even the tenth of a grain or of a minim do? And it is for the benefit of those that I will draw, so to speak, a sketch from life of our own not very enviable position with regard to doses. It must do us good to see ourselves occasionally as others cannot fail to see us; yes, even though the 'others' were only homoeopaths.

"As recently as 1895, Dr. Dujardin Beaumetz, the well-known therapist of 'l'Hopital Cochin,' in Paris, not many days before his death, published an article in the *Bulletin General de Therapeutique* (Vol. 128 page 97) on the treatment of acute bronchitis, which struck me at the time, and much more so now, as very remarkable. The article begins with the following prefatory remarks: 'To show how little progress medicine has made, many people maintain that we are quite unable to check a cold, even at its beginning; but that is a great mistake, as we possess a remedy with which we can surely abort a cold, and that remedy is aconite. Few remedies have been more discussed than aconite, and what puzzles us still more is the great fuss the homoeopaths make about it. Until about twenty years ago we used to employ the tincture made from the leaves, and I do not know why it was mostly used in the surgical wards as an external application to guard against the first effects of purulent infection, while all the time English practitioners were incessantly praising its virtues in pulmonary congestion.'

"The article goes on relating how French doctors came to hear that their failures with aconite were due to the fact that their tinctures were made from the leaves, in just going to shout Eureka, when another danger loomed ahead, and that was that aconite is poisonous, and many people are so susceptible to its action that even feeble doses can produce fatal results.

"Then, in its appalling simplicity, we read the following statement: 'Every year, unfortunately, we have to record cases of death due to aconite or aconitine, with the additional unpleasant accompaniment of coronial inquests, so much so that Dr. Brouardel is reported to have said that he will never again have anything to do with those preparations. But that is going too far, and I will endeavour to show that in the treatment of acute bronchitis aconite can be of much service, only it is necessary to be very careful in using it.'

"The article continues: 'If we wish to succeed in aborting acute bronchitis with aconite we can only do so by giving it in large doses, and only to those patients who have taken it before without bad results.' The large doses are from fifteen to twenty minims of the tincture twice in the twenty-four hours.

"But there is still another inconvenience. In order that the treatment may be effective, it must be continued for at least eight days, and aconite has a decided influence on the nervous system, which shows itself in spasmodic contractions, especially in the arms. So that the treatment is only for adults, who must be known to have taken the medicine before without any disagreeable symptoms, and should not last more than eight days.

"And this is by the pen of a well-known French therapist, who had been in practice thirty-three years, who had first been sub-editor of one of the best European medical journals for twenty-five years, who knew of the existence of Homoeopathy, but found no time to enquire and learn how the homoeopaths managed to get such good results from aconite; and who, finally, still went on killing some people, and jeopardizing the lives of some others every year, simply because he had got it into his head that acute bronchitis was to be aborted by aconite, and that aconite could only be given in doses which he well knew to be dangerous. And yet for scores of years before that article was published, homoeopaths had been checking and curing colds in a few hours by thousands with doses of aconite not large than the tenth of a drop, and pretty often as small as the hundredth of a drop. May God forgive us!"

We think our colleagues will, after reading the above, consider that we were not only justified in reproducing it *rebutim*, but that not to have done so would have been a great mistake. It requires very little of no comment on our part, as it speaks for itself. Dr. SISCA, though speaking of himself as an allopath, is just the type of man we like to meet: a man who thinks for himself, and has the honesty and straightforwardness to say what he thinks, and to give good reason for it. Were everyone in the old school of this thinking, honest, and fearless nature, homoeopathy would rapidly become the accepted and dominant practice. It could not fail to be so, and such articles as Dr. SISCA has written in the *Medical Brief* will do a world of good, and materially hasten the time.

which we firmly believe *must* come, when the law of similars and its consequent practice will be accepted in the old school as the greatest truth in medicine, and when it will be no detriment to any man to speak out fearlessly what he thinks, and which his ordinary judgment, and we may add his common sense, tells him is the truth. We congratulate Dr. Sisco, and trust that he will not allow himself to be "snuffed out" by his colleagues in Queensland or elsewhere, but fearlessly stand up for the right of the Briton to call a spade a spade, whatever his prejudiced neighbour or colleague may say or think. It is thus that doctrines which are steadily held and acted on by a minority become in time the belief of a majority, while those who stick to their guns, and fight nobly for the truth, and for their right to act in accordance with their convictions, not only have the satisfaction that they are personally acting conscientiously in their noble profession, but that they are contributing to the great work of spreading what is given to us by God, if man will only see it, and hastening on the time which *MUST* come, in spite of prejudice and opposition.—The *Monthly Homœopathic Review*, October 1, 1906.

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